

(a) *Operating Expenses District No. 1*

For a number of years the District 1 pilots have been performing only in-District assignments. They are under a single administrative authority consisting of D.O.T. personnel with headquarters at Cornwall whose extra-District administrative and operational jurisdiction now extends only to the Lake Ontario group of pilots.

Up to 1967 inclusive (except for 1961 when the District was solely under Canadian administration during the organizational period), to arrive at the cost of operating the District it was necessary to combine the operating costs of both administrative authorities, i.e., the Cornwall pilotage office and the Cape Vincent U.S. pilots' pool, while deducting from each despatching expenses incurred for adjacent services. Up to and including the 1968 season, the cost at the Cornwall office of the Canadian despatchers' salaries, overtime, shift differential and fringe benefits was shared equally between the Canadian Pilotage District of Cornwall and Great Lakes District No. 1, as were also the costs of the telex circuit linking Montreal and Cornwall. This, to a certain extent, amounted to a Canadian subsidy to District 1. Because of the sophisticated marine traffic information and communications available, all despatching of Cornwall pilots since the opening of the 1969 season has been handled from the Montreal despatching centre, and District 1 pilotage office in Cornwall no longer has anything to do with the Cornwall District pilots. Hence, the Department of Transport on behalf of the Pilotage Authority of the Cornwall District no longer shares in District 1 costs—these are now entirely borne by the District out of its pilotage earnings (Ex. 1541(aa)).

The same technical progress which led to a centralized despatching centre in Montreal enables the Cornwall pilotage office to serve as a despatching centre for the Lake Ontario pilots for assignments which formerly came under the jurisdiction of the Cape Vincent U.S. pool, and it also handles all the administrative work (except despatching from Port Weller) connected with these pilots. The share of the District 1 administrative authority's operating expenses to be borne by the Lake Ontario pilots has been fixed at 10 per cent of their pilotage fees (these do not include their transportation expenses and the cost of pilot vessel service which, until the 1970 revision of the tariff, were recoverable from the ships served during undesignated waters assignments).

The 1969 audited report of the District No. 1 Pilotage Authority (Ex. 1409) lists in Canadian dollars the various items of operating expenses. The share paid by the Lake Ontario pilots is shown in the form of a refund, leaving a total of \$86,487.77 of administrative expenses chargeable against the aggregate pilotage earnings of the District 1 pilots (11.1% of their gross revenue).

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Employees' salaries and benefits.....	\$ 53,006.85
Rental office space and equipment.....	2,246.54
Repairs to office equipment.....	34.97
District administrative travel.....	25.66
Telephone.....	3,055.70
Telex.....	747.68
Postage and express.....	316.26
Stationery and supplies.....	500.16
Cape Vincent station costs.....	5,920.00
Cape Vincent pilot boat costs (2,679 one-way trips)..	37,506.00
Source forms.....	350.63
Repairs to office equipment.....	126.00
Expenses reimbursed to pilot (post-season navigation).....	18.15
Loss absorbed on U.S. exchange.....	1.30
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Total.....	\$ 103,855.90
Less refund from lake pilots.....	17,368.13
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Operating expenses for District 1 pilots.....	86,487.77

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In order to relate the 1969 expenditures as above with the amount shown on the 1969 Revenue and Expenses Table on p. 308, it is necessary to allow for the different currency rate (.925) and the fact that in that Table the contribution from the lake pilots to District 1 administrative expenses (U.S. \$16,084) is shown for the river pilots as revenue for bookkeeping purposes, thereby somewhat confusing the presentation sought here.

In Canadian Pilotage Districts where the Minister is the Pilotage Authority, e.g., Cornwall, operating expenses as listed earlier are met by an indirect subsidy from the Department of Transport to the District concerned. This factor should be taken into consideration when comparing gross pilotage earnings, pilotage rates and other statistics.

As provided in the Memorandum of Arrangements, Canadian and U.S. pilots in all sectors except Lake Ontario form two separate groups for revenue sharing purposes, and the shares of the net income are calculated proportionately to the aggregate contribution of each group to aggregate earnings.

In 1969, District 1 gross earning amounted to \$775,986.29 (Can.), of which \$432,258.25 were earned by the services performed by Canadian pilots and \$343,728.04 by U.S. pilots. Thus, their proportionate shares in the net earnings were 55.7% and 44.3% respectively.

The Canadian pilots' share of the net income was \$384,050.68 from which the Government retained \$6,505.75 to reimburse part of the cost of taxi service between Snell lock and Cornwall incurred by the Canadian

pilots of District 1 (p. 218). The U.S. pilots do not use this service since they commute between Massena and Snell lock and pay their transportation expenses as they occur. For in-District assignments, rates are all inclusive and any travelling expenses incurred by District 1 pilots for in-District assignments are borne by them, since their remuneration is related to District revenue. This explains the deduction from their aggregate share of travelling expenses incurred by the Canadian Government on their behalf. This left for 1969 the sum of \$377,544.93 which was paid to the Canadian Pilots' Association for distribution among the Canadian pilots according to the pooling arrangements they have devised (p. 317).

The share of the U.S. pilots was \$305,447.84, from which a deduction of \$756.00 was made as the U.S. Association's assessment against them. Thus, the aggregate net share for distribution among the District No. 1 U.S. pilots was \$304,691.84. It was paid to the U.S. Pilots' Association for distribution according to the pooling arrangements they have made (pp. 161 and 317).

(b) *Operating Expenses Lake Ontario Pilots*

The Lake Ontario pilots do not have their own administrative authority. As seen earlier, they come under the jurisdiction of both District No. 1 and the Port Weller station for despatching, while all financial details involving them are handled by the District No. 1 administrative authority. Their contribution to the operating expenses of these offices has been fixed for District 1 at 10 per cent of their pilotage fees and, since 1969, for the Port Weller station, \$1.70 per despatch effected at that station (Ex. 1541(u)). Because they perform only undesignated waters assignments (except in Kingston harbour), the net income after deductions was, up to 1969, their take-home pay (all their travelling expenses, including pilot boat charges at Cape Vincent and Port Weller, were reimbursed by the ships they piloted).

The comparable operating expenses attributable to the Lake Ontario pilots for 1969 represented 20% of their gross revenue:

Contribution to Cornwall office expenses.....	\$ 17,368.13
Contribution to Port Weller office expenses.....	2,378.30
	\$ 19,746.43
Cape Vincent pilot vessel service (1,694 one-way trips).....	23,716.00
Port Weller pilot vessel service (708 one-way trips)....	12,744.00
	\$ 56,206.43

The financial statements for the Lake Ontario pilots also show as expenditures the pilots' other travelling expenses amounting to \$31,220.56, and ferry service fares between Kingston and Wolfe Island amounting to \$420.00. These items do not form part of pilot station expenses, and the fact that they were then recoverable from ships does not affect their nature as personal expenses of each individual pilot.

Their aggregate gross revenue amounted to \$281,024.13 (including the recoverable pilot boat charges) leaving them a net revenue, prior to deduction of their personal expenses, of \$224,817.70.

(c) *Operating Expenses—District No. 2 Pilots*

The *de facto* division of District 2 which came into effect with the 1969 season and is complete as far as operations are concerned has not been extended to financial operations—these continue to be governed by the criteria enunciated in the Memorandum of Arrangements, despite the fact they are inapplicable except for groups of Canadian and U.S. pilots participating equally in the provision of services in a given sector under the same working arrangements, a situation which no longer exists in reality. The earnings of all District 2 pilots and the operating expenses of the pilot stations at Port Weller and Port Huron continue to be pooled. The net aggregate revenue is then divided into two shares, one U.S. and one Canadian, in the proportion of the respective contribution of the pilots of each country to the aggregate gross revenue (Ex. 1541(cc)).

With the *de facto* division of the District, the Port Weller pilot station has become the sole administrative authority of the Welland Canal pilots (all Canadians), but only in so far as their Welland Canal duties are concerned. Because there is no Lake Erie group of pilots, some Lake Erie assignments are carried out by Welland Canal pilots, in which event they come under the jurisdiction of the administrative authority of the western sector at the Detroit change-point. Conversely, while the Port Huron administrative authority has exclusive jurisdiction over all U.S. District 2 pilots for assignments performed in the District (except in the Canadian ports in that sector), U.S. pilots performing Lake Erie assignments occasionally come under the Port Weller administrative authority for despatching from Port Colborne. Another small problem is determining the share of expenses to be paid by the two Canadian pilots operating in the Canadian ports on the Detroit River and St. Clair River, but this does not prevent the extension of the *de facto* division of the District to financial operations. Nevertheless, this desirable step has not yet been taken.

The pilots (other than District 2) engaged in lake assignments take advantage of the facilities and services of the Port Weller and Port Huron stations. These pilots are required to pay for pilot vessel service on a trip basis, and are now charged a fixed fee for each despatch.

The 1969 joint audit report for the financial operations of the Port Weller/Port Huron stations (Ex. 1408) lists the operating expenses incurred by the two District 2 administrative authorities and charged against the pilots' gross earnings. Statement 3 is quoted below *verbatim*.

	Port Huron	Port Weller
	<i>U.S. Dollars</i>	<i>Can. Dollars</i>
Operating and Administrative Expenses		
Pilot Boat Charges.....	\$ 22,210.26	\$ 60,732.75
Contract Dispatching.....	21.00	
Employees Salaries and Benefits.....	47,172.16	55,196.70
Rental Building and Equipment.....	6,545.80	3,540.35
Depreciation Expense—Furniture and Equipment.....	669.43	
Heat, Light, Power and Water.....	961.48	431.04
Repairs—Office Equipment.....	65.26	61.66
Repairs and Maintenance—Buildings and Grounds.....	2,395.02	2,403.77
Administrative Travel.....	869.80	1,602.24
Telephone, Telegraph, Telex.....	4,682.25	2,869.22
Insurance and Bonding.....	165.34	
Postage and Express.....	354.46	469.00
Other—Materials, Supplies, Stationery.....	522.21	588.20
Audit Expense.....	1,973.75	
	\$ 88,608.22	\$ 127,894.93
Port Weller operating and administrative expenses expressed in U.S. currency at .925 rate differential.....		U.S. \$ 118,302.81
Total operating and administrative expenses.....		U.S. \$ 206,911.03

The system of billing and collection was changed in 1969. The Port Weller station now is responsible for all fees and charges resulting from services rendered by District 2 Canadian pilots, i.e., not only the Welland Canal pilots but also the two Canadian pilots stationed in the western sector. Conversely, the Port Huron station handles the billing and collection of all fees and charges earned by U.S. District 2 pilots (Ex. 1541(cc)). In 1969, these earnings for the Canadian pilots amounted to U.S. \$824,045.82 (Can. \$890,860.35) and for the U.S. group, U.S. \$791,619.55—a grand total of U.S. \$1,615,665.37. Since the Canadian contribution accounted for 51% of the aggregate earnings and the U.S. pilots' contribution 49%, the aggregate operating and administrative expenses of U.S. \$206,911.03 were shared in that proportion: \$105,531.87 for the Canadian pilots and \$101,379.16 for the U.S. pilots. The net amount accruing to the Canadian pilots was U.S. \$705,743.01 but it was paid to the Canadian Government since all the Canadian pilots in District 2 are its salaried employees.

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Out of the U.S. gross share (U.S. \$703,011.33) the following deductions were made before distribution to the pilots concerned:

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United States pilots' expenses for automobile operation, maintenance and depreciation.....	\$ 6,613.90
Advisory association dues.....	1,683.75
Total.....	\$ 8,297.65

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(d) *Operating Expenses—Lake Huron/Lake Michigan Pilots*

Originally, assignments in the Lake Huron/Lake Michigan sector were shared between District 2 and District 3 pilots and, therefore, the facilities and despatching services at Port Huron and Detour were free of charge to the pilots of the other District. The expenses of the joint Chicago pilotage office were shared between District 2 and District 3 in proportion to the number of times their pilots were despatched. These arrangements continued after the appointment of lake pilots. However, after the re-organization of District 2 in 1969, which entailed, *inter alia*, the withdrawal of District 2 pilots from service in the Lake Huron/Lake Michigan area and the transfer for administrative purposes of the Lake Huron/Lake Michigan pilots to District 3, the Chicago station became the sole charge of the District 3 administrative authority, and a despatching charge was established for each lake despatch from Port Huron (Ex. 1541 (bb)). These despatching charges at Port Huron amounted to \$3,850.00 in 1969 and, in addition, the same pilots paid Port Huron \$20,407.50 for pilot vessel service.

Since the District No. 3 financial statement does not segregate revenues or expenses either by group of pilots or by sector, it is not possible to ascertain from the statements available the exact share of expenses borne by the Lake Huron/Lake Michigan pilots.

(e) *Operating Expenses—District No. 3 Pilots' Pool*

As already indicated, the financial statement for 1969 of the Lake Superior Pilots Association, Inc. concerning the District 3 pilots' pool includes, without segregation, all earnings and expenses connected with the services rendered by the Lake Huron/Lake Michigan pilots in their sector and by the District 3 pilots for their services in the District as well as in the open waters adjacent to it, i.e., the Lake Huron/Lake Michigan and Lake Superior sectors and their ports.

The main difficulty encountered by the auditors with regard to accounting for pool operations by the U.S. Pilots' Association was its failure to segregate the financial operations of the pool from those of the Association. The problem would be theoretical if all the pilots using the pool and compelled to meet its operating expenses were members of the U.S. Pilots'

Association but this is not the case because there are a few Canadian pilots both in District 3 and in the Lake Huron/Lake Michigan group. Because these Canadian pilots are salaried employees of the Department of Transport, their net earnings accrue to the Canadian Government, which should not be required to contribute in any way to the operating expenses of the U.S. Pilots' Association as such. The joint audit by the two Governments as now provided for in the Memorandum of Arrangements was added to redress the situation. With regard to the 1969 year of operations, the joint auditors struck out \$19,005.82 from the administrative expenses charged to the pool because these were expenses pertaining to the U.S. Association's own activities. It was also found that the pool had been wrongly charged as expenditures for subsistence and travel expenses \$21,185.62 which, together with other plus and minus corrections, made a total minus readjustment in the claimed expenditures of \$40,002.24. This readjusted the total of expenditures from \$112,506.16 to \$72,503.92. Similar difficulties, but to a much lesser extent, were also met in District 2 in connection with the Port Huron financial statement.

District No. 3's aggregate pool operating expenses for the year 1969 are stated as follows in Ex. 1391:

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Operating Expenses:	
Gas, oil, repairs—Autos.....	\$ 4,567.65
Auto Leasing.....	8,250.00
Administrative Salaries.....	11,125.47
Office Rent—Duluth, Chicago, Milwaukee.....	4,007.00
Office Supplies and Materials.....	3,408.16
Administration Travelling.....	3,822.11
Telephone—Duluth, Soo, Chicago, Milwaukee	10,169.48
Insurance and Bonding.....	5,547.58
Postage.....	360.00
Bank Charges.....	172.09
Auditing.....	810.00
Dispatching—Duluth, Ft. William, Soo, Pt. Huron.....	15,794.24
Miscellaneous Taxes.....	43.40
Repairs and Laundry.....	191.05
Depreciation.....	134.00
Total Operating Expenses.....	\$ 68,402.23

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To bring the cost of operations into line with those quoted for the various pilotage offices, it would be necessary to add the cost of providing pilot vessel service, even that part which is recoverable from vessels. This item amounted to \$59,275.18 of which \$39,857.61 was recoverable.

Although no details are given, it is surmised that the foregoing expenses include the \$3,850.00 for despatching services charged by the Port Huron station and the \$20,407.50 for pilot vessel service extended at Port Huron to District 3 pilots or lake pilots (vide p. 314).

The U.S. and Canadian pilots' contribution to the \$589,234.94 aggregate earnings of the pool was respectively \$447,764.72 and \$141,470.22, i.e., 75.99% and 24.01%, establishing the extent of their participation in the pool's operating expenses.

#### (4) PILOTS' REMUNERATION

##### *Preamble*

There were frequent complaints that the Canadian pilots were generally discriminated against because their remuneration was less than that of their U.S. colleagues in the same sector. Except for the variation due to the exchange rate (pilotage charges are in Canadian or U.S. dollars according to the nationality of the pilot—a discrepancy the Commission feels should be corrected (Rec. 12)), a comparison of the pilots' income is not valid because the amounts involved are not comparable until consideration is given to fringe benefits and the security provided by a guaranteed minimum income, additional revenue and reimbursed expenses.

Great caution should also be exercised when comparing the remuneration of pilots from different groups because the nature of their work and the extent of their workload are not the same. For this reason alone, the remuneration of District No. 1 pilots should be substantially higher than that of Lake Ontario pilots. District No. 3 pilots stand somewhere between the pilots restricted to in-District assignments and lake pilots because they have a combination of a short stretch of designated waters and extensive open waters where most of their pilotage time is spent.

Many other factors must also be considered, e.g., the demand for, and difficulty of, pilotage duties. Hence, comparisons made prior to 1969 without making these distinctions between the remuneration of District 1 and District 2 pilots whose assignments extended over the open waters of all the Great Lakes, except Lake Superior, were bound to be defective and misleading. Each group is a special case and the criterion is not the remuneration of the next group of pilots, or of other groups of pilots, but what remuneration should be offered to attract the type of mariner whose qualifications meet the standards required by the nature and circumstances of the local service (p. 177). These will vary from sector to sector: very high in some areas, average and general in others (Part I, p. 138). The amount paid one group of pilots is bound to affect other groups but the rates should be set with due allowance for all local factors and differences.



In the Great Lakes system, three methods of remuneration are now officially recognized:

- Each pilot is paid the fees he has earned by his services, less his contribution to administrative expenses proportional to his participation in the common fund.
- Each pilot receives an equal share (except for the currency differential) of the net earnings based on availability for duty (Lake Ontario pilots, both Canadian and U.S., act as one group (p. 323).
- Canadian pilots who are prevailing rate employees are paid a pre-determined salary and are entitled to additional remuneration for extra work, plus fringe benefits.

In a system of fully controlled pilotage where the unofficial status of the pilots is *de facto* employees, they usually make a private arrangement to pool their earnings if their administrative authority has failed or refuses to do so. In the Great Lakes system, the various administrative authorities do not pool the earnings of the pilots under their jurisdiction (except the Lake Ontario pilots). The official rule is that each pilot is paid all the earnings accruing from his services less his pro-rated share of administrative and operating expenses.

The Commission has not made any inquiry to find out whether the U.S. pilots have adopted private pooling arrangements but is aware from their Working and Despatching Rules that the U.S. District 1 pilots have done so (vide p. 161). These are private arrangements which the Commission has considered beyond its mandate in so far as the U.S. pilots are concerned. Therefore, for U.S. pilots, the Commission takes the aggregate amount of the fees earned by their services, less their share of official administrative expenses, as their actual remuneration. Since the U.S. pilots in each District have formed a professional association, they have to share the operating expenses of their corporations. The Commission is aware that there are other group expenses, *inter alia*, premiums for insurance coverage.

With regard to the Canadian pilots, the only sector in which such a situation may arise is District 1, since the Lake Ontario pilots' earnings are officially pooled and all other Canadian pilots are salaried employees of the Government. In fact, the District 1 Canadian pilots, like their U.S. colleagues, have agreed to pool their earnings privately.

As for workload, detailed statistics (Ex. 1215) have been available from 1963 on for the official gross and net earnings (not receipts) brought in by the services of each pilot, U.S. or Canadian, including Canadian Government

employees. It is on these statistics that the joint *Statistical Report Great Lakes Pilotage* (1968 version reproduced as Appendix A) is based. In order to obtain figures that could be compared, the Commission has adopted average figures calculated in the same way as the average workload (p. 231), i.e., in order to take into consideration only pilots with full availability, the figures quoted are the average earnings of the busiest 80% of the pilots. To arrive at the net average earnings, a deduction was made on the basis of the percentage contribution toward the administrative expenses established for the year concerned. As in Ex. 1215 on which these figures are based, they are shown in the currency of the nationality of the pilots, just as the fees were charged to ships (pp. 293 and ff.).

(a) *District No. 1 Pilots*

The following table lists for District No. 1 pilots with full availability their average gross and net earnings. The net earnings were arrived at by deducting District operating expenses only calculated on the basis of applying the percentage of operating expenses paid annually out of the pilots' gross earnings (pp. 309-10) as established by the annual financial reports (Ex. 1409). When studying this and similar tables to follow it should be remembered that amounts for Canadian pilots are shown in Canadian dollars while those for U.S. pilots are in U.S. dollars. The exchange rate used each year to determine the final distribution is shown in the last column. Therefore, to establish the earnings of the U.S. pilots in Canadian dollars the amounts listed must be converted.

Year	Average Gross Earnings		Less Expenses	Average Net Earnings		U.S. Exchange
	Can.	U.S.		Can.	U.S.	
			%			%
1963	\$16,051.40	\$18,097.96	19.0	\$13,001.63	\$14,659.35	7.9
1964	19,190.14	21,173.50	13.9	16,522.71	18,230.38	7.9
1965	21,351.31	18,123.74	10.5	19,109.42	16,220.75	8.0
1966	21,071.85	21,046.55	17.1	17,468.56	17,447.59	n/av.
1967	19,169.25	19,198.15	n/av.	n/av.	n/av.	n/av.
1968	21,485.26	21,362.40	12.9	18,713.66	18,606.65	8.7
1969	22,979.12	22,829.15	14.2	19,716.08	19,587.41	8.7

Sources: Exs. 1215 and 1409.

As was to be expected, the average earnings of Canadian and U.S. pilots in this District have been practically the same. This is the normal result of a despatching system based on the equalization of trips principle when assignments consist mainly of trips of the same nature and earn the same fee. The small differences are accounted for by assignments for which there is no equalization, i.e., movages, a few partial trips which for despatching purposes count as one full trip but call for only a partial fee and accessory indemnity charges. It is because the majority of trips did not bring in the same revenues that wide differences occurred prior to 1966. In those years, District pilots had frequent Lake Ontario assignments which counted as one trip for despatching purposes but varied greatly in earnings. Under the equalization of trips system, the amount of earnings was then a question of chance which sometimes favoured the Canadian pilots and sometimes the U.S. pilots. The same discrepancies are now bound to re-occur commencing with mid-1970 when the weighting factor was introduced. The fairly equal sharing of District earnings resulting from the equalization of trips and flat rates will no longer be possible, because the charges for a full transit may vary as much as 52.9% depending upon the size of the ship. There would be no problem from the point of view of remunerating the pilots if all earnings were pooled and Canadian and U.S. pilots with equal availability were paid similar shares like the Lake Ontario pilots, but the Canadian and U.S. groups in this District pool their aggregate earnings separately. It is considered that this is an inequitable situation which is bound to create difficulties—it should be corrected by establishing a true pooling system for all District 1 pilots.

Despite the considerable decrease in pilotage demand since the peak years of 1965–66 (p. 99), the individual pilot's remuneration has been constantly rising under the combined effects of reduction in numbers (p. 180) and substantial annual increases in fees (pp. 291 and ff.).

The net earnings quoted earlier do not represent net revenue since each pilot must pay his share of the operating expenses and the joint expenditures of his Pilots' Association, and must also meet without reimbursement (except for lake assignments up to mid-1970) all his transportation and living expenses.<sup>3</sup> As seen earlier (Part IV, pp. 956–8), some of the personal transportation costs of Canadian pilots are deducted from their aggregate group earnings prior to payment to their Association, i.e., the aggregate amount owing to the Canadian Government for the taxi service it provides to

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<sup>3</sup> By contrast, the Cornwall District pilots do not bear personally their transportation costs—they are recovered from ships (Part IV, p. 976). The net earnings and remuneration quoted for District 1 are not comparable with those of the Cornwall District pilots (Part IV, p. 983) unless the latter are increased by the average per pilot of the amounts so recovered from ships.

transport Canadian pilots between Cornwall and Snell lock. This procedure has the advantage of apportioning this outlay among all the Canadian pilots, but other transportation and living expenses vary from pilot to pilot depending upon their assignments. For District 1 pilots, transportation costs do not include the Cape Vincent pilot vessel service since its cost forms part of the general operating expenses of the District.

Also as seen earlier (p. 311), since 1969 the District administrative authority has retained from the aggregate U.S. pilots' share the U.S. Association's assessment against U.S. pilots—this amounts to \$756 which belong to the Association as such. The net aggregate amount of the U.S. pilots' earnings is paid to the same Association but on behalf of the U.S. pilots for distribution according to the rules they have adopted as a group.

It is known from the Working Rules and Despatching Procedures (Ex. 432) that the U.S. pilots pool their earnings through their Association. Sharing is on the same basis as had been adopted by the Canadian pilots and is related to the despatching system which operates on the number of assignments and not on availability. At the end of the season every pilot whose total number of trips is not more than one below the total average of the top seven pilots is entitled to a full share; the other pilots are paid a full share less the value, as averaged, of the number of trips they lack to obtain a full share. In addition to the reimbursement of travelling expenses, these rules provide for free turns for attendance at authorized Association meetings or to conduct Association business when this involves going off the tour de rôle. Subsec. 04 provides for deducting the Association's administrative expenses from the pool. It is reasonable to assume that the U.S. pilots have other expenditures to meet out of their revenues, e.g., group insurance, which further reduce their actual take-home income.

The Kingston District pilots (in other words the Canadian pilots registered for District No. 1) have always pooled their earnings. They have retained the pooling procedure in force when they and the present Cornwall District pilots were pilots in the St. Lawrence–Kingston–Ottawa Pilotage District (for details, see By-law No. 2 of the Corporation of the Upper St. Lawrence Pilots, Ex. 848). This is why, except for a few differences in detail, their pooling procedure is essentially the same as in the Cornwall District. This method is a logical accompaniment of the equalization of trips system which was adopted at their request (vide the study of the Cornwall pilots' pooling system, Part IV, pp. 977 and ff.). The only substantial difference is that they have not adopted the recent innovation in the Cornwall system to ensure full attendance at the end of the season, the so-called winter pool. There is only one pooling period per year with interim distributions, generally

on a monthly basis. Full trip transits, as well as Lake Ontario assignments, count for one turn each. Half turns are granted for trips of short duration as determined by the Board of Directors. For details of the Corporation of the Upper St. Lawrence Pilots and its financial operations, vide pp. 186-95, especially the tables pp. 191-2 where the accounting procedure for pool operations is explained. Re administrative costs and other pool liabilities, including group expenses, vide pp. 192-5 where, *inter alia*, the aggregate value of free turns granted Directors is shown.

The following table shows for the years 1960-1969 the number of pilots sharing in the pool, the number who obtained a full share and the amount of such full share, but does not include the incidence of sharing in earnings from winter navigation. As in the Cornwall District, the pilots' full share is calculated before personal deductions for Federation and Guild fees (these are the same for all pilots, \$225 in 1969), insurance premiums (these vary with the pilot's marital status: \$991.52 for a married man, \$741 for a single man in 1969) and the initiation fee (\$300 in only one case in 1969). The corresponding table for the Cornwall pilots is Part IV, p. 981.

POOLED EARNINGS

Year	Total Pilots Sharing	Pilots with Full Shares	Amount of Full Share
1960.....	21	19	\$11,105.40
1961.....	21	21	12,785.48
1962.....	21	11	13,323.36
1963.....	21	20	11,889.17
1964.....	n/av.	n/av.	n/av.
1965.....	20	12	17,501.59
1966.....	20	10	16,819.73
1967.....	n/av.	n/av.	n/av.
1968.....	19	17	17,775.50
1969.....	19	18	18,530.91

SOURCE: Ex. 861.

Non-pooled items comprise detention, recoverable expenses and true winter pilotage earnings (fees, detention and recoverable expenses). Statistics on the earned basis are not consistently available for each year. It is not, therefore, possible to draw up tables that would compare with the "Non-Pooled Earnings" table or the "Comparative Analysis of Income Brackets" in

Part IV, p. 982, regarding the Cornwall District pilots. The 1969 Corporation financial statements give the following information which may serve as a guide:

Aggregate detention (earned).....	\$ 10,926.95
Recoverable expenses (earned).....	1,984.00
Winter navigation (paid).....	4,463.00
Total.....	\$ 17,373.95

The actual amount each pilot receives from these sources varies because they are not pooled; the average per pilot for 1969 was \$914.42 which, added to a full share of the pool, \$18,530.91, makes for that year an aggregate average gross remuneration of \$19,445.33 and, after deducting Federation fees and insurance premiums, a net average remuneration of \$18,308.81 for a married man and \$18,479.33 for a single man. It should also be borne in mind that there are additional travelling and transportation costs (apart from taxi fares between Snell lock and Cornwall deducted from the aggregate share of the Canadian pilots by the Kingston Pilotage Authority and the Dougan pilot vessel service at Kingston paid by the Corporation from the pool prior to sharing (p. 191).

(b) *Lake Ontario Pilots*

The following table is on the same basis as the table for District 1 pilots (p. 318). It shows the average gross and net earnings of Lake Ontario pilots with full availability.

AVERAGE EARNINGS OF LAKE ONTARIO PILOTS

Year	Average Gross Earnings		Less Expenses %	Average Net Earnings		U.S. Exchange %
	Can.	U.S.		Can.	U.S.	
1963	\$16,490.20	\$17,598.05	10.5	\$14,758.73	\$15,750.25	(All in Can. \$)
1964	8,473.33	12,892.50	n/av.	n/av.	n/av.	7.9
1965	13,687.50	9,543.00	10.4	12,264.00	8,550.53	9.2
1966	10,970.00	9,280.83	10.4	9,829.12	8,315.62	n/av.
1967	12,649.42	10,796.75	n/av.	n/av.	n/av.	n/av.
1968	13,974.83	13,449.04	9.6	12,633.25	12,157.93	8.7
1969	16,452.54	15,975.10	9.3	14,922.45	14,489.42	8.7

SOURCES: Exs. 1215 and 1409.

When these figures are compared, a distinction should be made between the different connotations of the terms "gross earnings" and "net earnings" in the context of the rate structure for undesignated waters up to mid-1970. Until then, pilots on undesignated waters assignments were reimbursed for all their travelling expenses, including pilot boat charges, but these recoverable items are not shown in the statistics as part of the pilots' gross earnings. The operating expenses shown here to arrive at the net figures consist of only the percentage of their gross earnings they are required to pay the District 1 administrative authority in lieu of their share of District operating expenses, and the despatching fees they now pay the Port Weller station. All the Lake Ontario pilots without distinction of nationality have agreed since 1965 to pool their earnings. Sharing is on the basis of pilotage fees earned (not collected) and availability for duty. This is the only equitable approach on account of the great variation in type and duration of assignments and the earnings they produce (vide pp. 245-6).

The pool is administered by the District No. 1 administrative authority free of further administrative charges. Since the lake pilots are generally available, their full share is substantially the same as the net average share of fully available pilots quoted in the previous table. In 1968, for instance, eight of the 14 sharing pilots had full availability, four were absent 4 days or less, one, 11 days and one, 77 days. The full share that year amounted to \$12,199.92 Canadian. In 1969, out of 13 sharing pilots only two were not fully available, one being absent one day and the other one 41 days. The full share that year was \$14,557.86 Canadian (Ex. 1409).

#### COMMENTS

The Lake Ontario pilots' remuneration is still lower than in District 1, even after deducting a proper allowance from the net earnings of District 1 pilots for travelling expenses. Since the nature of pilotage and the workload are not comparable (pp. 118 and 241-2), remuneration should not be comparable. Since the required *expertise* for a District 1 pilot is much more extensive and exacting, his remuneration should be greater for equal availability. This factual situation is consonant with the criterion applicable when the remuneration of pilots is established.

#### (c) *District No. 2 Pilots*

The average gross and net earnings of District 2 pilots with full availability are as shown in the next table.

AVERAGE EARNINGS OF DISTRICT NO. 2 PILOTS

Year	Average Gross Earnings		Less Expenses	Average Net Earnings		U.S. Exchange
	Can.	U.S.		Can.	U.S.	
			%			%
1963	\$17,008.29	\$20,684.38	10.8	\$15,171.39	\$18,450.47	7.9
1964	20,461.25*	22,257.60	12.8	17,842.21**	19,408.63	7.9
1965	18,732.86	20,746.56	9.3	16,990.70	18,817.13	8.0
1966	17,219.31	21,928.93	n/av.	n/av.	n/av.	n/av.
1967	15,896.95	19,738.56	10.2	14,275.46	17,725.23	n/av.
1968	23,982.16	26,692.00	9.3	21,751.82	24,209.64	8.7
1969	21,449.36	25,393.07	14.4	18,360.65	21,736.47	8.7

\*Includes \$625.50 re Port Weller harbour pilots.

\*\*Includes \$547.18 re Port Weller harbour pilots.

SOURCES: EXS. 1215 and 1408.

Here again, the meaning of gross and net earnings differs substantially from what is meant by these same terms applied to District 1 or Lake Ontario pilots. This is on account of the extensive lake assignments which were performed by District 2 pilots up to 1968 inclusive and the importance of the Lake Erie assignments they continue to perform. Therefore, in order to ascertain the true net earnings of District 2 pilots, it would be necessary to deduct non-recoverable travelling expenses, i.e., those incurred during in-District assignments.

There have always been substantial differences in the average and net gross earnings of U.S. and Canadian pilots with equal availability, despite the fact that up to 1968 they shared the same workload and were governed by the same working rules. This is mainly accounted for by the different incentives of the two groups resulting from their different terms of employment and method of remuneration. This resulted, *inter alia*, in an exception being placed in the rules for U.S. pilots exempting them from mandatory relief at lock 7 (pp. 253 and 259). In 1963, this exemption brought them \$100 extra per transit. In general, the Canadian pilots are more likely to complete an assignment as soon as legally possible because this improves their working conditions; the U.S. pilots, on the other hand, strive to extend their time on duty because this increases their earnings. It is a fair suggestion that, if the Canadian pilots had had the same status as their U.S. colleagues, first, there would have been the same working rules for both groups and, secondly, the average earnings of pilots with full availability in each group would have shown the same variations, one year in favour of the U.S. pilots, another to the advantage of the Canadians, for the same basic reasons that prevailed in District 1 before 1966 (pp. 284-5). This situation was corrected by the 1969 re-organization and each group now has exclusive jurisdiction over given types of assignment (pp. 256-60), thus eliminating the discrepancies resulting from the variation in assignments and their aggregate revenue.



The Commission is unaware of the pooling arrangements, if any, of the U.S. pilots. The net figures quoted above are not clear income since they have to pay their share of the administrative expenses of their Association, either through assessments or as a first charge against the pool. In addition, like other U.S. Pilots' Associations, they doubtless have group insurance premiums to pay.

The gross remuneration of the Canadian Great Lakes prevailing rate employee pilots consists of:

- (i) salary during the navigation season, the duration of which varies from year to year but is generally a little over eight months, and the fringe benefits accruing to Crown employees and other financial advantages inherent in the status of employee, e.g., full reimbursement of living-out expenses when away from home port (normally a living-out allowance) and of transportation expenses for travel between stations or to or from assignments away from home port;
- (ii) pre-season and post-season earnings by those who volunteered (pp. 259-60).

Salary deductions are each pilot's share of contributions to superannuation, medical and surgical group insurance, workmen's compensation and the Canada Pension Plan (the remaining share is contributed by the Government and forms part of the pilots' fringe benefits). With regard to pre-season and post-season earnings, the pilots are treated as private entrepreneurs and, therefore, have to meet out of this revenue their travelling and living-out expenses. However, they are not required to share in the administrative expenses of the pilot station and such revenue does not count for superannuation purposes. In addition, most of the pilots are members of the Corporation of Professional Great Lakes Pilots (p. 196) and are required to pay dues both to this Corporation and to the Federation of the St. Lawrence River Pilots with which the Corporation is now affiliated. Those pilots who have joined the Canadian Merchant Service Guild on an individual basis are also liable for its dues.

The differences in the aggregate revenue of the individual pilots are mainly due to the extent of their availability during the navigation season, the number of holidays taken, the amount of annual leave to their credit at the end of the season, whether or not they volunteered for pre-season and post-season pilotage and, if so, the importance of the assignments received since, although assignments are according to tour de rôle, they differ greatly and earnings are not pooled, and, finally, to a negligible extent as far as some deductions are concerned, their marital status. For details of the changes affecting the remuneration and conditions of employment of the Canadian Great Lakes pilots as prevailing rate employees, see pp. 201 and ff.

*Study of Pilotage in Great Lakes System*

The following table shows for the years 1963, 1964 and 1969 the gross salaries (hence, excluding the revenues from pre-season and post-season pilotage) earned by Canadian District No. 2 pilots, and the number of pilots whose aggregate salary for the navigation season fell in the bracket concerned.

Aggregate Salary Bracket	1963	1964	1969
\$20,500-21,000.....	....	....	18
20,000-20,500.....	....	....	22
19,500-20,000.....	....	....	2
19,000-19,500.....	....	....	....
18,500-19,000.....	....	....	....
18,000-18,500.....	....	....	....
17,500-18,000.....	....	....	....
17,000-17,500.....	....	....	....
16,500-17,000.....	....	....	....
16,000-16,500.....	....	....	....
15,500-16,000.....	....	....	1
15,000-15,500.....	....	....	....
14,500-15,000.....	....	....	1
14,000-14,500.....	....	....	....
13,500-14,000.....	....	....	....
13,000-13,500.....	....	....	....
12,500-13,000.....	....	....	....
12,000-12,500.....	2	22	....
11,500-12,000.....	3	3	....
11,000-11,500.....	27	4	....
10,500-11,000.....	1	1	....
10,000-10,500.....	....	2	....
5,000-10,000.....	1	1	1
0-5,000.....	....	2	....
Total Number of Pilots.....	34	35*	45

SOURCE: EX. 1019.

\*Excluding the two Port Weller harbour pilots who were paid \$7,359.74 and \$7,594.15 respectively.

District No. 2 supplementary earnings from pre-season and post-season pilotage were:

- (i) in 1963, aggregate gross earnings of \$10,050 shared among 27 out of 34 pilots; two pilots received more than \$1,100 each and one more than \$950;
- (ii) in 1964, an aggregate amount of \$12,399.20;
- (iii) for 1969, an aggregate of \$5,982.50 shared among 26 out of 45 pilots; the largest amounts earned by individual pilots were \$1,259.50, \$499.00, \$404.50 and \$350.00.

The percentage value of fringe benefits in 1969 was:

Surgical/Medical (Government's share) .....	.1%
Vacation .....	.505
Workmen's Compensation (Government's share) .....	.3
Rest periods .....	4.05
Statutory holidays .....	2.97
Superannuation (Government's share) .....	12.85
Total .....	20.775%

(d) *Lake Huron/Lake Michigan Pilots*

The average gross and net earnings of Lake Huron/Lake Michigan pilots with full availability are shown in the next table.

Year	Average Gross Earnings		Less Expenses	Average Net Earnings		U.S. Exchange Rate Used
	Can.	U.S.		Can.	U.S.	
1964.....	\$ 7,860.00	\$ 7,930.00	11.2%	\$ 6,979.68	\$ 7,041.84	.925%
1965.....	7,672.50	9,767.50	10.4	6,874.56	8,751.68	.925
1966.....	8,127.50	10,274.29	11.6	7,184.71	9,082.47	.925
1967.....	7,589.08	9,798.25	14.0	6,526.61	8,426.49	n/av.
1968.....	13,817.92	16,936.19	9.8	12,463.76	15,276.44	n/av.
1969.....	17,248.25	16,594.71	11.2	15,316.45	14,736.10	.925

SOURCES: Exs. 1215 and 1408.

The comments made concerning the different connotations of the terms "gross earnings" and "net earnings" when applied to the Lake Ontario pilots (p. 323) also apply here. By contrast with the Lake Ontario pilots, however, all the Lake Huron/Lake Michigan pilots do not share the same status: the actual earnings of the Canadian pilots during the navigation season accrue to their employer, the Canadian Government. Since they perform neither pre-season nor post-season pilotage, their only remuneration is their salary and the various benefits and advantages derived from their status as Government employees.

Except for the monthly salary rate, and the four extra vacation days granted in 1971 (see p. 207), their remuneration and terms and conditions of employment are the same as described for Canadian District 2 pilots. The details and value of fringe benefits are also the same (see above).

*Study of Pilotage in Great Lakes System*

The actual gross salaries earned by the four Lake Huron/Lake Michigan Canadian pilots for the years 1969 and 1970 (these lake pilots did not exist as such in 1963 and 1964) were as follows:

1969 .....	\$17,502.44	\$17,508.04	\$17,508.04	\$17,645.75
1970 .....	\$16,764.92	\$16,734.38	\$14,786.62	\$14,786.53

(e) *District No. 3 Pilots*

The average gross and net earnings of District No. 3 pilots with full availability are shown in the next table.

Year	Average Gross Earnings		Less Expenses	Average Net Earnings		U.S. Exchange Rate Used
	Can.	U.S.		Can.	U.S.	
1963.....	\$17,187.54	\$19,745.03	26.4%	\$12,650.03	\$14,532.34	.925%
1964.....	25,937.50	26,326.82	23.0	19,971.87	20,271.65	.925
1965.....	13,476.00	26,921.50	20.5	10,713.42	21,412.59	.925
1966.....	16,921.25	24,661.36	18.9	13,723.13	20,000.36	.925
1967.....	18,666.83	20,841.30	23.4	14,298.79	15,964.44	n/av.
1968.....	20,838.42	25,125.27	19.8	16,712.41	20,150.47	n/av.
1969.....	18,373.63	25,640.75	12.3	16,113.67	22,486.94	.925

SOURCES: Exs. 1215 and 1391.

Although the applicable working rules do not cover the matter, the Commission is aware that the U.S. District 3 pilots pool their earnings and that sharing is on the basis of availability for duty. This is the only equitable method in view of the great diversity in the nature and duration of their various District and lake assignments.

The few Canadian pilots in District No. 3 have the status of Canadian Government prevailing rate employees and, therefore, their actual pilotage earnings accrue to the Canadian Government. Here again, they do not perform any pre-season or post-season pilotage and, hence, their only source of remuneration is their salary and the benefits and advantages attached to it. Otherwise, their gross and net remuneration is exactly as described, even the amount of the monthly salary (pp. 206-7) as described for Canadian District 2 pilots (p. 324). The gross salaries earned by the few Canadian pilots for the years 1963, 1964, 1969 and 1970 are as follows:

1963 .....	\$11,149.35	\$10,793.46	\$10,479.36	
1964 .....	11,795.31	11,795.31	12,068.05	
1969 .....	20,366.14	11,296.10	20,355.84	\$20,296.18
1970 .....	19,438.24	19,438.25	19,287.84	

## Chapter D

# RECOMMENDATIONS

### RECOMMENDATIONS AFFECTING THE PILOTAGE AREAS OF THE GREAT LAKES SYSTEM

#### PREAMBLE

This chapter contains the Commission's recommendations on subject-matters of basic importance regarding pilotage in the Great Lakes system which is covered in this Part of the Report. Following the practice adopted in the other Parts, many of the proposals in the form of comments, remarks and conclusions are contained in the text but have not been listed here to avoid repetition and also because they should be read in their context for better comprehension.

*Inter alia*, attention should be paid to the various remarks regarding the illegalities and deficiencies in Canadian legislation dealing with the requirements for pilots' qualifications (pp. 16 and 17), the re-appraisal power of the Canadian licensing authority (p. 19), the registration procedure (p. 22), the lack of co-ordination between Part VI and Part VIA C.S.A. (pp. 26 and ff.), the non-binding effect of the working rules on Canadian pilots (pp. 161, 164, 171 and 172), the fact that Canadian Lake Ontario pilots are not legally competent to pilot in Kingston harbour (pp. 164 and 165), and the comments on recruiting and apprenticeship (pp. 184-5). It is also considered that there is danger in imposing unwarranted pilotage requirements for the purpose of increasing revenue (p. 179) and that the divergence in Canadian and U.S. attitudes towards pilots' organizations (p. 185) should be resolved.

#### RECOMMENDATION No. 1

**The General Provisions of the Proposed Canadian Pilotage Act Also to Apply to the Canadian Waters of the Great Lakes System and Separate *ad hoc* Legislation to Be Avoided; However, Provisions of Exception to Be Embodied in the New Statute to Cover Special Circumstances, Such as Those Resulting from the Bina-tionality of the Pilotage Waters on the Great Lakes**

*Ad hoc* legislation carries the double risk that the subject-matter may be only partly covered and correlation with other legislation may be neglected. Part VIA C.S.A. is no exception (pp. 25-30).

The confined waters of the Great Lakes system present individual pilotage problems and there are also differences between sectors, but these are to be expected. Since pilotage is a local service, each pilotage area is a special case and, hence, the service should be organized to meet the type of demand which local circumstances dictate. Accordingly, those general principles and provisions of common application which a fully comprehensive Pilotage Act should contain (Part I, Gen. Rec. No. 6) apply equally to the restricted sectors of the Great Lakes, but legislative provisions to meet local situations of a permanent nature should be embodied in the general Act as cases of exception (sec. 356A C.S.A. is a good example of this procedure). The main situation in the Great Lakes system which the statute must cover is the special problem caused by the binationality of pilotage waters. One aspect is the inclusion of reciprocal provisions to extend to the United States complete pilotage jurisdiction in specified Canadian waters of the Great Lakes, provided the United States grants similar jurisdiction to Canada in specified United States waters. Other provisions of exception should be included to enable Canada to coordinate its Great Lakes pilotage requirements with the United States.

When new terms have to be used, e.g., to ensure that Canadian and U.S. legislations are parallel, care should be taken to correlate the new terms with those in the general Act, in order to avoid the risk of rendering such provisions inapplicable. It should be borne in mind that, according to the rules of interpretation, when different terms are used, it denotes an intention to have different meanings in order to exclude the application of other statutory provisions. A case in point is the adoption in Part VIA C.S.A. of the term "registered pilot". As far as general Canadian pilotage legislation was concerned (Part VI C.S.A.), the term "licensed pilot" met the requirements, but in the U.S. general legislative context it had a substantially different meaning (p. 35); hence, the necessity for adopting a new term. The absence of an appropriate provision in the legislative definition of the term "registered pilot" in Part VIA C.S.A. (subsec. 375A(c) to relate it, *mutatis mutandis*, to the statutory definition of "licensed pilot" (subsec. 2(44)), whenever it was intended to refer to a pilot who has been granted authorization to exercise his profession in a given sector by the appropriate agency of Government, automatically rendered most of the provisions of Part VI inapplicable to a "registered pilot". For instance, a Court of Formal Investigation which has the power to suspend or cancel a pilot's *licence* is powerless to deal with a *registration certificate* (p. 28).

RECOMMENDATION No. 2

**Compulsory Pilotage in the Existing Designated Waters of the Great Lakes System to Be Maintained Subject to Certain Adjustments in Sector Limits; the Pilotage Service Provided in Each Sector under Canadian Control to Be Classified an Essential Public Service**

It is in the public interest that all reasonable precautions be taken to protect Seaway installations and locks against damage by ships and to ensure that the locks are transited not only safely but as rapidly as possible, since slow manoeuvres detract from the efficiency of Seaway operations and cause traffic congestion which delays shipping unduly. Furthermore, a serious mishap in a confined section of the Great Lakes waterway could block this busy artery of commerce which is vital to the economy of Canada and presumably of the United States as well.

In these circumstances, the Governments concerned are justified in intervening and taking the necessary steps to ensure that ships negotiating Seaway locks, canals and channels are navigated by persons with the necessary skill and *expertise*. Accordingly, the pilotage service in each of these sectors should be classified as essential (Part I, p. 509).

As recommended for those sectors under Canadian jurisdiction, this classification would automatically entail, *inter alia*, the following:

- Compulsory pilotage would be applied (Part I, Gen. Rec. 22, p. 532 and its accessory Gen. Rec. 23, p. 539, re personal exemptions);
- the Pilotage Authority of each District would assume responsibility for the direction and management of the service (Part I, Gen. Rec. 14, p. 495);
- the pilots would become employees (preferably salaried rather than *de facto*) of their respective Pilotage Authorities (Part I, Gen. Rec. 24, p. 545).

Compulsory pilotage in the existing designated pilotage sectors of the Great Lakes should be maintained (Part I, p. 509), subject to certain adjustments in sector limits to make them correspond to the actual areas of restricted navigation. These designated sectors, as adjusted, should be:

- (a) the St. Lawrence Seaway between Snell lock and Cape Vincent (i.e., the "designated waters" now forming District No. 1), but excluding Kingston harbour (for the reasons stated earlier, vide pp. 136-8) and the short stretch of the River between Snell lock and St. Regis (vide Part IV, Rec. 3);
- (b) the Welland Canal, but excluding Port Colborne for all ship movements not related to the Welland Canal (pp. 135-6);

- (c) the dredged approaches to the ports situated at the west end of Lake Erie and the connecting channels between Lake Erie and Lake Huron (i.e., the “designated waters” now forming District No. 2, but excluding the western open-water sector of the District for reasons given on p. 89 and in Rec. 9);
- (d) the connecting channels and Seaway locks between Lake Huron and Lake Superior (i.e., the “designated waters” now forming District No. 3).

RECOMMENDATION NO. 3

**Compulsory Pilotage in the Undesignated Waters of the Great Lakes to Be Abolished and the Existing Publicly Organized Pilotage Services in the Open Waters of the Great Lakes to Be Discontinued**

The compulsory pilotage requirement for Great Lakes undesignated waters is unwarranted either in the public interest or for the safety of navigation. It demands a costly, involved service which serves little, if any, purpose and adversely affects ocean-going and coastal vessels and, hence, the Canadian economy.

To impose, directly or indirectly, pilotage upon vessels or a certain group of vessels is a restriction on the freedom of navigation which can not be justified unless required in the public interest. As a rule, a ship should be navigated by her Master, or by her officers under his authority, since not even the most experienced pilot has a better knowledge than the Master of his ship's peculiarities, capabilities and limitations. Therefore, the Government should not interfere with this basic responsibility of shipmasters unless public interest is involved (Part I, Gen. Rec. 22, p. 532).

The open waters of the Great Lakes can be navigated with safety by experienced mariners without employing a pilot (pp. 118-9). Even if a shipping casualty were to occur in these areas, it would affect only the parties involved, i.e., the owners of the ships concerned and their cargoes. Maritime traffic would not come to a halt and the Canadian or United States economy would not be adversely affected. Moreover, neither country is in any way concerned with speedy transits in the open waters of the Lakes—if certain ships wish to proceed cautiously or at relatively slow speed, the rest of the maritime traffic will not be disturbed in the least. Since public interest is not involved, publicly organized pilotage—and, even less, compulsory pilotage—is not justified in the open waters of the Great Lakes any more than in the open waters of the St. Lawrence River east of Les Escoumins and in the Gulf of St. Lawrence (Part I, p. 479).



Pilotage requirements in the open waters of the Great Lakes were considered justified to promote the safety of navigation solely because certain Masters and officers of ocean vessels were unfamiliar with the Great Lakes rules and navigational practices, namely, special Rules of the Road, mandatory use of R/T, operators with a practical knowledge of the English language and separate shipping lanes for upbound and downbound traffic. However, the fact that some non-regular traders did not meet all these specifications was never considered a serious threat to the safety of navigation, as proved by the ease with which waivers have been granted (p. 144) and by the indirect manner in which the subject is covered in the legislation of Canada and the United States. Neither legislation prohibits ships' officers who are unfamiliar with these special rules and practices from navigating without the assistance of a person with such knowledge. The only requirement is that there be on board such a person whose assistance could be readily available if needed, i.e., the mere presence on board (not necessarily on the bridge) of a registered pilot or an officer of the ship holding a "B" certificate for the waters concerned (p. 118).

That the necessary familiarization could be easily acquired is clear from the ease with which "B" certificates may be obtained, i.e., two round trips in the waters concerned within the preceding two years and an examination on the Great Lakes Rules of the Road, radiotelephone procedure, proficiency in the English language and knowledge of the practice of following separate courses. Re the requirement for two round trips, it is not necessary that the officer participate in the actual navigation of his ship, or even be on the bridge at all (p. 140).

Variations in navigational rules and practices are common and ocean-going Masters and officers are used to encountering them, for such differences will be found wherever unusual navigational conditions prevail. The Great Lakes Rules of the Road were originally drawn up in circumstances that have changed radically as a result of the opening of the Great Lakes to ocean shipping in 1959. Many of these rules that conflict with the International Rules were not dictated by local peculiarities but merely reflect local practices which developed over the years when most of the ships trading on the Lakes were confined to them because of their size and, for the same reason, most ocean-going ships could not proceed above Montreal (Part IV, pp. 927-9). These Rules, which contain modifications of the International Rules of the Road, now lead to some confusion and may even be a source of potential danger, not only for the coastal and ocean-going vessels which enter the Great Lakes system, but also for the lake vessels themselves which now proceed in great numbers downriver to and below Montreal harbour where the International Rules as modified by the St. Lawrence River Collision

Regulations apply (Part IV, p. 177 and p. 655). The Commission is aware of the efforts made in Canada and the United States to modify the Great Lakes Rules with a view to bringing them more in line with the International Rules, retaining only what is absolutely necessary for the safety of navigation in the light of present conditions. The Commission supports these efforts as an elementary safety measure and has reason to believe that this important objective will be achieved in the near future.

Radiotelephone communication between ships for safety reasons is a mandatory practice in the Great Lakes system (pp. 108 and ff.). It has proven far superior to sound and visual signals. A common language is an essential prerequisite and it is because English was in general use on the Great Lakes that the system became possible. It has worked well and has great safety advantages.

Most Masters and officers of foreign ships now entering the system have a good working knowledge of English. To impose compulsory pilotage in the open waters of the Lakes, thereby necessitating a costly, involved service because a few of them are not conversant with it, is unjustifiable. Furthermore, the present regulations do not provide the solution since neither the pilot nor the "B" certificate-holder, as the case may be, has to be in charge of navigation in undesignated waters—in fact need not even be on the bridge—nor is the Master obliged to use his services as interpreter if the occasion arises. Some other means must be found to solve this problem, bearing in mind that, as a prerequisite to ships entering the Great Lakes system, it is the basic responsibility of shipowners to have aboard radiotelephone operators fluent both in English and in the language spoken by the Master and conversant with marine terms. One method might be for the shipowners to arrange, much as was done in the past with Sailing Masters, for the temporary hiring of such operators in sufficient numbers to assure a continuous watch, but they should not form part of the pilotage organization or be provided by it.

The use of separate shipping lanes is not a difficult requirement since they are clearly indicated on the charts. Ocean-going Masters and officers are conversant with the practice of using separate shipping lanes which has now been adopted in many parts of the world, so much so that it was made the subject of an international IMCO agreement (vide p. 114) and at the March 1971 meeting of the Maritime Safety Committee of IMCO it was unanimously agreed that two-way sea traffic rules should be made compulsory in all crowded areas throughout the world.

The requirement to have a pilot on board while crossing the open waters of the Great Lakes is very costly for ocean shipping, and a sizeable pilotage organization must be maintained to meet the demand thus artificially created.

The vast size of the Lakes and the long distances to their ports result in a regrettable waste of pilots' time, either waiting at outports or travelling back and forth between them and pilot stations, which must be reflected in pilotage charges. Compulsory pilotage has become a self defeating process in that it is driving clients away from the Great Lakes system (p. 98).

The present pilotage requirements in the undesignated waters of the Great Lakes represent a compromise solution reached in 1960 to break the deadlock in negotiations over urgently needed parallel pilotage legislation (pp. 53-63) but were considered essentially a temporary measure subject to modification in the light of experience (pp. 138-9). In the preamble to the 1968 Memorandum of Arrangements (Ex. 1400), the Canadian and U.S. Governments stated that "open waters" pilotage was one subject they had agreed to include in the overall revision of the pilotage system and its rate structure.

In the light of the foregoing, the Commission believes that compulsory pilotage in the undesignated waters of the Great Lakes should be abolished and publicly organized pilotage as it now exists there discontinued, on the grounds that shipping has no need for such a service and it is not warranted in the public interest.

#### RECOMMENDATION NO. 4

**Establishment of Port Pilotage Services in Great Lakes Ports  
Situated outside Designated Pilotage Waters to Be Left to  
Local Port Authorities; Such Services in Canadian Ports to  
Be Classified Private Services**

Efficient and relatively inexpensive port pilotage service can be achieved only if locally organized. Since the aim is to improve local safety and efficiency, the organization and control of such services should be the responsibility of the port authority.

A pilot is by definition an expert in local navigation and his *expertise* is maintained and improved by constant intensive local experience. In addition to familiarity with physical features and the intricacies of navigation, he must be fully informed about local traffic (pp. 119-20).

The obvious reason why the organization of separate port pilotage services was not encouraged in the Great Lakes system is that under the existing legislation there is little need for it, since there should be on board all ships calling at its ports a qualified person sufficiently conversant with them to provide the necessary service, even if delays are incurred at times. However, experience has proved that non-regular traders who do not take a pilot

on board in the open waters of the Lakes because of the "B" certificate procedure have regularly taken advantage of port pilotage services wherever they exist (vide p. 121). The demand for port pilotage services will increase if more non-regular traders arrive at ports without a pilot on board, which will be the case if the number of "B" certificate-holders increases, or if, as recommended, the compulsory taking of a pilot in the open waters of the Lakes is abolished and the pilotage service officially organized there is discontinued.

Ports situated in designated waters (with the exception of those which were included more by accident than by necessity, e.g., Kingston, or because they serve merely as a boarding area, e.g., Port Colborne) are in quite a different category because, except for regular traders, they are the origin or destination of trips through restricted waters where pilotage is compulsory. Berthing or unberthing is an integral part of an assignment; this practice should be followed unless safety or efficiency would be enhanced by the creation of a separate port pilotage service and no unreasonable expense is involved. In Montreal, all the governing factors were considered and a compromise reached: the harbour pilots' activities were limited to movages within the harbour, with St. Lambert lock at the entrance to the Seaway being considered a harbour berth for this purpose (Part IV, p. 626). The Commission has recommended against a separate port pilotage service for Quebec—despite the fact it would in certain circumstances improve efficiency—because of the prohibitively high cost with the prevailing demand (Part IV, p. 1014). In the three Great Lakes Districts, this problem arises only in the intermediate ports of Detroit and Toledo; elsewhere, most traffic consists of full transits. The available statistics do not permit the Commission to pass judgment on the possibility or advisability of port pilotage in these two cities.

The main complaint by shipping was the lack of District pilot stations to service these ports by maintaining sufficient pilots to meet the demand so that ships would not have to detain a pilot in order to ensure service on departure (pp. 168 and 254–6). The result has been costly detention charges for ships and a serious waste of pilots' time. By establishing the Detroit change-point with its pool of pilots some relief was obtained and, at the same time, the situation at Toledo improved.

Accordingly, the Commission recommends that port pilotage services in Great Lakes ports situated outside designated waters should be organized by local port authorities at their discretion, that wherever such services are established at Canadian ports they be classified private services (Part I, Gen. Rec. 17, p. 509) and the port pilots involved who meet the basic qualifications be entitled to a Certificate of Approval from the duly designated Pilotage Authority (Part I, Gen. Rec. 13, p. 494).

RECOMMENDATION NO. 5

**The Principles of U.S. and Canadian Participation at All Levels of Pilotage Administration and Parity in the Number of Pilots to Be Abandoned**

These principles, which result from the binationality of Great Lakes waters, are based on considerations foreign to pilotage organization as such. When they were adopted, they appeared to be the equitable solution in the circumstances but experience proved them unworkable because they interfered with the flexibility that should characterize a pilotage organization, and gradually they had to be abandoned (pp. 146-8).

The more realistic organization towards which the present system has evolved should be formally agreed upon and given full recognition in the legislation of both countries.

The organizational principles recommended are described in subsequent Recommendations.

To require parity in numbers between United States and Canadian pilots, whether overall or in each sector, is unrealistic and artificial. This principle was adopted with the aim of providing equal opportunities for the pilots of both countries but it proved a source of administrative problems and the aim was achieved only at the expense of efficiency. The number of pilots required in any area must be decided locally. Increases or decreases in strength should not be affected by the nationality of available candidates nor should any variation in national representation in one sector require compensation by rearrangement in other sectors.

The system was tried and found wanting (pp. 175-8). Overall parity was achieved briefly in 1964 but has since been abandoned for all practical purposes. Candidates of the required nationality were often not available to fill vacancies and these were often left unfilled for a considerable time, with adverse effects on the efficiency of the service.

RECOMMENDATION NO. 6

**The Principle of Two Distinct Canadian and United States Great Lakes Pilotage Administrations to Be Retained, but Their Respective Jurisdiction to Be Limited to Specific Zones of the Great Lakes System: the Area East of Lake Erie under Canadian Control and the Area West of Lake Erie under United States Control**

The concept of an International Pilotage Commission seems the ideal solution in principle but, from the practical point of view, it is considered that

control of pilotage in the Great Lakes system can be achieved as effectively though a less complicated organization.

The system of separate national administrations has worked well and has proved sufficiently flexible. It has been possible to proceed gradually to a basic reorganization of the system through the simple process of decisions arrived at jointly by the two Central Authorities ratified at Government level by an exchange of diplomatic notes (Memorandum of Arrangements).

It is considered, however, that the rôle of the two Central Authorities should now be redefined in the respective legislation of each country. In addition to their function as coordinators of the overall organization of pilotage services throughout the Great Lakes system and their general responsibility to promote and protect the interest of the country they represent, *inter alia*, by assuring that adequate services are provided at reasonable cost, each Central Authority should have its jurisdictional control limited to a given territory which would become its exclusive responsibility and over which it would have exclusive administrative and operational control, i.e., the organization towards which the original system has gradually evolved.

Joint Canadian and United States participation at the administrative and operational levels was a solution arbitrarily imposed in the implementation of the original principle of equal participation. Significantly, this solution was never applied to District No. 3. It also required the joint agreement and absolute cooperation of the Canadian and U.S. local administrative authorities who shared the direction of the service in Districts 1 and 2 and their adjacent undesignated waters. This proved complicated, costly and a serious source of dispute among pilots. It has since been replaced by the more realistic concept of a single administrative operational authority for each sector of designated waters and the *de facto* division of the Great Lakes system into two separate spheres of control, the Canadian Central Authority becoming responsible for pilotage operations in the Great Lakes system east of Lake Erie and the U.S. Pilotage Administration west of Lake Erie.

These arrangements, which have developed on the basis of experience, should be recognized in parallel legislation which acknowledges that each country has the right to adopt in its respective zone of control the type of organization best suited to its legislative and institutional requirements, and provides all the necessary powers to achieve full and effective control over the provision of services, as if the zone were fully contained in its national territory, including full and exclusive powers to license pilots and determine their status, method of remuneration and working conditions.

RECOMMENDATION No. 7

**The Pilotage Organization in the Great Lakes Zone under Canadian Control to Be Integrated with Pilotage Elsewhere in Canada and Operated on the Same Principles and Procedures**

There is no valid reason why the zone of the Great Lakes system which it is proposed to make an exclusive Canadian responsibility should be treated for organizational purposes as a case of exception in Canadian legislation: it ought to be fully integrated with the national pilotage system.

In addition to avoiding unnecessary multiplication of Crown agencies, a unified Canadian pilotage organization would have the marked advantage of achieving a consistent policy as determined by the proposed Canadian Central Pilotage Authority (Part I, Gen. Rec. 16, p. 502). As the Canadian counterpart of the U.S. Great Lakes Pilotage Administrator, it would be in a position to implement their mutual decisions and ensure the necessary coordination both with the U.S. zone of the system and the other Canadian Pilotage Districts. Despite apparent differences from a purely legal point of view, this is actually the present situation. This function is now fully assumed by the Minister of Transport, officially for the Great Lakes system as the Canadian Pilotage Administrator, and for the St. Lawrence Pilotage Districts situated below the Great Lakes system as the Pilotage Authority for each of the three Districts of Cornwall, Montreal and Quebec. This concentration of power in the Canadian Central Authority is warranted to ensure the most efficient service in the St. Lawrence-Great Lakes waterway under Canadian jurisdiction.

The function of the Central Authority should remain as defined in Gen. Recs. 16 and following (Part I, pp. 502 and ff.), with the added responsibility in the Great Lakes system of acting in cooperation with the U.S. Great Lakes Pilotage Administration, but it should not become involved in administration at District level or the direction of the local pilotage service.

Each separate pilotage sector in the Canadian zone of the Great Lakes system should be made a Pilotage District in the Canadian meaning of the term, and each of those Districts whose services are classified as essential in the public interest should be under the full licensing, administrative and operational authority of its own Pilotage Authority (Part I, Gen. Recs., C.11, pp. 455 and ff.).

RECOMMENDATION No. 8

**The Two Designated Waters Sectors Contained in the Proposed Great Lakes Zone under Canadian Control to Become Separate Canadian Pilotage Districts**

The sector of the Seaway between Snell lock and Cape Vincent extending over the pilotage waters of both countries, which now forms Great Lakes District No. 1, and the Welland Canal, which now forms the eastern sector of District No. 2, should each become a Pilotage District, as defined in Canadian legislation, with its own Pilotage Authority.

District 1 is already organized as a separate District and its present limits should be maintained, subject to the necessary adjustment at the downstream end between Snell lock and St. Regis which, as recommended earlier, should form part of the Cornwall Pilotage District (Part IV, Rec. 3, p. 1009).

The Welland Canal has been, in fact, if not in law, a separate Pilotage District since 1969. The original organization for Great Lakes District 2 violated all the basic principles which should govern Pilotage Districts (p. 165) and experience proved it to be inadequate and less than efficient. Not only have the District 2 pilots been gradually restricted to in-District assignments, but since the 1969 reorganization they have been assigned to either one of the two sectors of the District, separated as they are by the open waters of Lake Erie. Each sector is now served by its group of pilots and administered by its own separate, independent administrative authority. It is considered that this factual situation should be given legal recognition by establishing the Welland Canal sector as a separate Pilotage District with its own Pilotage Authority and regulations.

RECOMMENDATION No. 9

**A Pilot Boarding Station to Be Established at the Western End of Lake Erie**

A pilot boarding station at the western end of Lake Erie is essential to achieve full efficiency in the western sector of District No. 2.

This basic requirement has always been recognized but a number of factors have so far prevented its fulfilment, principally because the cost involved was not considered warranted in the light of the existing pilotage demand in the open waters of Lake Erie.

To organize and operate a boarding area in that sector is a relatively involved proposal since there is no port situated at the approach to the connecting channels leading to the Detroit River and ports at the west end of the Lake, and each possible site poses different financial problems.



Southeast Shoal has been referred to as the most suitable location since it is the only area at the western end of Lake Erie where all traffic has to pass close to shore, i.e., through the passage between Point Pelee and Pelee Island. Therefore, it is close to road communications and a pilot vessel operating from shore would not have to travel far to provide service. However, this is not the ideal site from the operational point of view since it is too far out in the open waters of the Lake. Pelee Passage does not present sufficiently unusual navigational difficulties to warrant the assistance of a pilot and the thirty-six-mile stretch between Pelee Passage and confined waters is uncomplicated open water navigation (p. 89). To establish a boarding area at that end is possible but is it economically justified? A floating boarding station could be established, a system which has been adopted in cases where the distance to the land was excessive, e.g., in the Quebec District, C.G.S. *Citadelle* was stationed near the boarding area to provide living quarters for the pilots (Part IV, p. 418). This system is also in use in New York harbour. An alternative would be to require vessels to detour somewhat closer to the northwest shore of Lake Erie where there is deep water and from where a shuttle pilot vessel service could be operated. The factors which determine the choice between such alternatives are the cost involved and the loss of pilots' time that could be avoided if the station were established west of Southeast Shoal.

If the Commission's Recommendation No. 3 for abolishing the pilotage requirement and discontinuing service in undesignated waters is implemented, it will be necessary to establish and operate such a boarding station. This will result in increased efficiency in both sectors of District No. 2 together with a reduced number of pilots.

#### RECOMMENDATION NO. 10

##### **All Pilots, Irrespective of Their Nationality, within a Group and Sharing the Same Workload to Be under the Complete Control of the Same Central and Local Authorities**

A single line of direction over all the pilots in a group who share the same workload is essential to the efficiency of the pilotage service. This can be more easily achieved when all the pilots in the group hold the same nationality, as is now the case in both the Welland Canal, where all the pilots are Canadians, and in the western sector of District No. 2, where all the pilots except two are U.S. citizens (the two Canadian pilots not belonging to the United States group do not now share the same workload (vide pp. 256-7)).

Although the question of overall or local parity between Canadian and U.S. pilots should not be considered (Rec. 5), there is no basic objection if the pilots of both countries share in the provision of services in a given

sector, provided that, except for nationality, they are fully integrated into the group, i.e., come under the jurisdiction of the same central and local authorities for all purposes (including licensing and its related functions) and share the same status and method of remuneration (for further details, vide Rec. 11).

If there is to be binational participation in any sector, the number or ratio of pilots of each nationality should not be rigid but merely a tentative goal, the exigencies of the service permitting.

Licensing power and its associated functions of surveillance and reappraisal are essentially local and should be the prerogative of the local authority, the District Pilotage Authority in the Canadian organization (vide Part I, C. 11, Gen. Recs. 8, 12 and 26-36). The exercise of these powers by Canadian Pilotage Authorities should not be a bar to licensing pilots of U.S. nationality. The basic marine competency and experience, which are a prerequisite to licensing, appear from the candidates' records and, hence, except for verification purposes, do not come within the purview of the licensing process. For U.S. candidates, a Certificate of Competency issued by the proper U.S. authority is equivalent to the Certificate required from Canadian candidates and should be accepted as the prerequisite for a pilot's licence (or registration certificate if the term is to be retained) issued by the Canadian Pilotage Authority or to continue to hold his Canadian pilot's licence once issued. Such a licence would automatically lapse or be suspended if the U.S. Certificate of Competency was withdrawn or suspended by the U.S. Coast Guard or other appropriate U.S. authority. The licence of a Canadian pilot should be dealt with in the same manner if his Certificate of Competency issued by D.O.T. is withdrawn (Part I, Gen. Rec. 36, p. 578).

#### RECOMMENDATION No. 11

##### **The Status and Method of Remuneration of All Pilots Sharing the Same Workload to Be Uniform**

Disparity in status and method of remuneration of pilots within the same group and sharing the same workload is, as proved by experience, not conducive to good administration and is prejudicial to the efficiency of the service (Part I, p. 548). The adverse effects of such a situation were serious in District 2 which has the larger number of pilots with substantially the same representation from each nationality (vide p. 181). The ensuing difficulties were no doubt the main reason for the administrative division of the District into two sectors in 1969 with the pilots in each enjoying the same status and method of remuneration.

The problem still exists with the District 3 and Lake Huron/Lake Michigan groups, but it is not as acute because there are fewer pilots and a

smaller Canadian representation. Nevertheless, charges were made of discrimination against the Canadian pilots or, at least, differences in treatment (pp. 278–80).

Differences in the status and system of remuneration of pilots within the same group are bound to create disputes and administrative difficulties. Pilotage is sufficiently complex and testing without adding unnecessary complications—this situation should be corrected.

Where the Canadian pilots are salaried employees, U.S. pilots should not necessarily be barred from participating. As already recommended, pilots should not be employees of a Department of the Canadian Government but of their Pilotage Authority.

#### RECOMMENDATION No. 12

##### **Billing and Collecting Pilotage Fees to Be in the Currency of the Nationality of the Pilotage Administration Controlling the Service, Regardless of the Nationality of the Pilots Concerned**

Until recently, it made a substantial difference to vessels whether pilotage fees were in U.S. or Canadian currency (pp. 293–4) and the problem still remains, despite the fact that at the moment (July 1971) the exchange differential is small.

Two basic principles governing the establishment of rates are that the extent of pilotage charges for a given service should be fully ascertainable from the applicable tariff, and there should be only one applicable tariff for services rendered by a group of pilots. This is, in fact, the nature of the agreement that was reached between Canada and the United States prior to the enactment of their parallel Great Lakes pilotage legislation. The United States Great Lakes Pilotage Act requires the establishment of “joint or identical rates, charges, and any other conditions or terms for services by registered pilots”; the expression “registered pilots”, when used without qualification in the United States Act, refers to both United States and Canadian registered pilots.

This goal, however, was never achieved because the method adopted always took into account the rate of exchange differential. Agreements as to pilotage rates have been reached at Government level through the procedure of the Memorandum of Arrangements. The ensuing tariffs have been joint in that the rates are described in the same terms in both U.S. and Canadian regulations; these rates appear to be, at first view, identical in that the same amounts are quoted in both regulations but, in fact, there is a substantial difference in that the amounts payable to U.S. pilots are in U.S. dollars while those payable to Canadian pilots are in Canadian dollars.

At first, the problem was not taken too seriously because of the small differential in the rate of exchange. The 1961 Memorandum of Arrangements provided that the applicable currency was to be the currency of the administrative authority concerned. Hence, Canadian pilotage offices billed pilotage charges in Canadian dollars, irrespective of the nationality of the pilot, and the U.S. pools in U.S. dollars. Under this system, there was no injustice to shipping since there was no overlapping in the jurisdiction of the various pilotage offices, e.g., in District 1, all upbound traffic was billed in Canadian currency and all downbound traffic in U.S. currency. This arrangement was changed after the Canadian dollar was pegged in 1962 at 92½¢ U.S. because the rate differential was then substantial. No doubt the legal argument must have been raised to the effect that U.S. pilots were governed by U.S. legislation and, accordingly, the U.S. tariff should apply when billing ships for the value of U.S. pilots' services. In 1963, the Memorandum of Arrangements was modified to provide that henceforth billing would be in the currency of the nationality of the pilot who had rendered the service. This further complicated accounting procedures and the distribution of net earnings. The problem no longer exists in District 2 because all the pilots in each of the two groups have the same nationality, but remains in all other sectors of the Great Lakes system.

It is considered that a return should be made to the original arrangements, each local authority to bill in its own currency. The division of the Great Lakes system into Canadian and U.S. zones should be recognized and defined in legislation, and the regulation-making authority of each country should limit its rate-fixing function to the zone under its jurisdiction. The tariff enacted by the regulation-making authority of the other country for the zone under its jurisdiction would then be made applicable by a mere reference accompanied by the usual reciprocal clause.

RECOMMENDATION No. 13

**In the Great Lakes Zone under Canadian Control, Direction of the Pilotage Service to Be the Sole Responsibility of the Pilotage Authority of Each District; the Equalization of Trips System Which Is Now Being Followed in District No. 1 to Be Abandoned; Assignments to Be Made According to a Regular Tour de Rôle Based on Availability for Duty with Due Regard for Safety of Navigation**

A similar recommendation made in Part IV (Rec. No. 8, p. 1020) applies here equally *mutatis mutandis*.

RECOMMENDATION NO. 14

**In the Great Lakes Zone under Canadian Control, in Any District Where the Pilots' Remuneration Is Not a Fixed Salary, the District Pilotage Authority to Institute and Operate Pooling of the Pilots' Earnings, and Arrange Sharing on the Basis of Availability for Duty without Regard to Nationality; Pilots' Corporation Expenses to Be Financed through Membership Dues Deducted at Source from Each Pilot's Share in the Pool**

A similar recommendation made with respect to the St. Lawrence River pilots (Part IV, Rec. 9, p. 1024) applies here equally *mutatis mutandis*.

There should be a single pool for each group of pilots who share the same workload, even when both nationalities are involved, e.g., the Lake Ontario group (pp. 296, 301 and 322-3). However, the currency factor should be disregarded and shares calculated in the currency of the administrative authority concerned. These measures would guarantee an equal share for equal availability, irrespective of nationality.

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## Chapter E

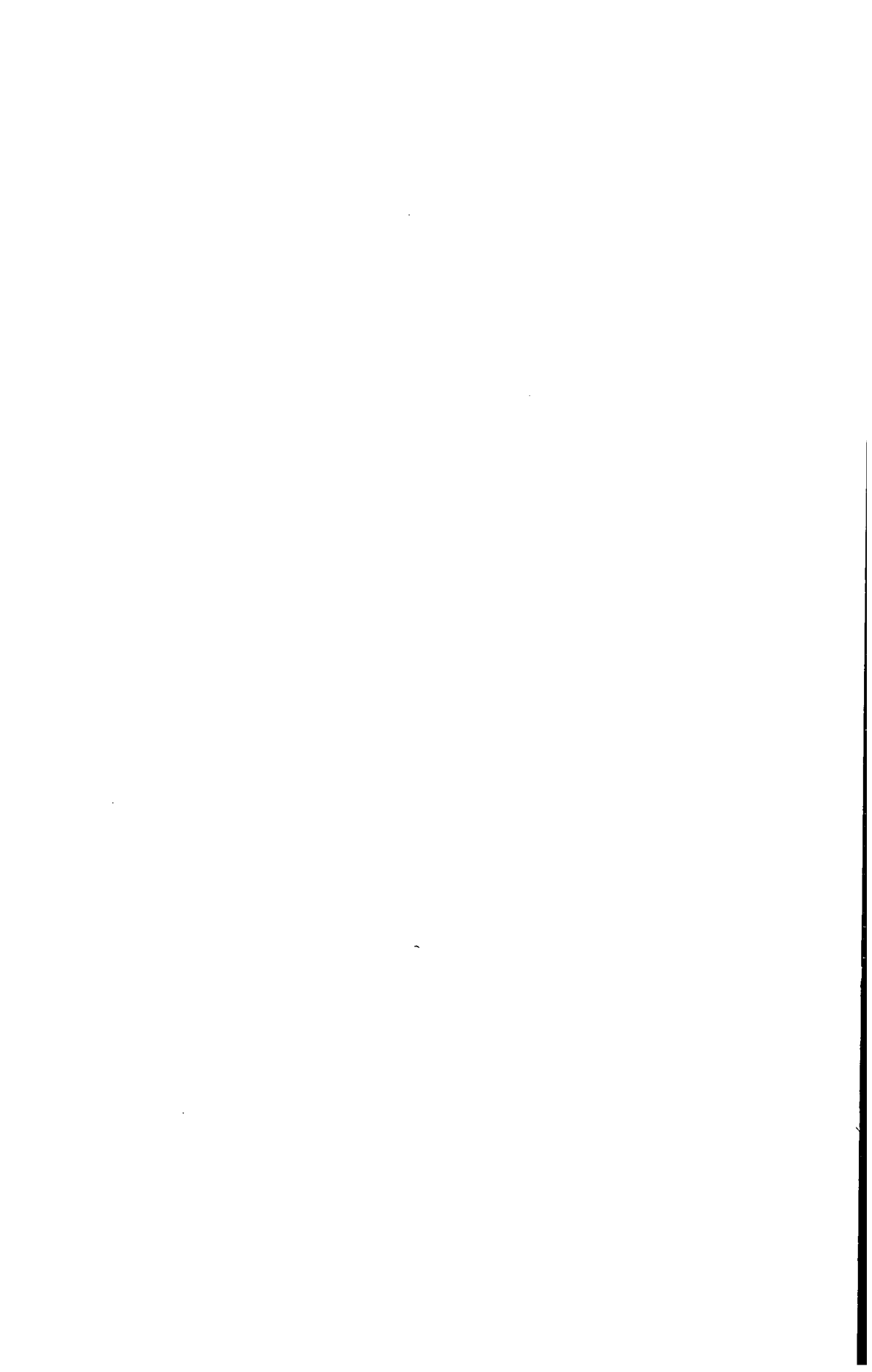
# APPENDICES

### APPENDIX A

Statistical Report Great Lakes Pilotage 1968.

### APPENDIX B

- (1) Shipping Casualties, Accidents and Incidents with a District No. 1 Pilot on Board:
  - (a) Table—Comparative statistical analysis during the years 1964–1969 inclusive.
  - (b) Summary—Detailed analysis for the year 1964.
- (2) Shipping Casualties, Accidents and Incidents with a Lake Ontario Pilot on Board:
  - (a) Table—Comparative statistical analysis during the years 1964–1969.
  - (b) Summary—Detailed analysis for the year 1967.
- (3) Shipping Casualties, Accidents and Incidents with a District No. 2 Pilot on Board:
  - (a) Table—Comparative statistical analysis during the years 1964–1969.
  - (b) Summary—Detailed analysis for the year 1965.
- (4) Shipping Casualties, Accidents and Incidents with a Lake Huron/Lake Michigan Pilot on Board:
  - (a) Table—Comparative statistical analysis during the years 1964–1969.
  - (b) Summary—Detailed analysis for the year 1966.
- (5) Shipping Casualties, Accidents and Incidents with a District No. 3 Pilot on Board:
  - (a) Table—Comparative statistical analysis during the years 1964–1969.
  - (b) Summary—Detailed analysis for the year 1966.





## Appendix A

# STATISTICAL REPORT GREAT LAKES PILOTAGE 1968

*Prepared by*  
U.S. Department of Transportation  
U.S. Coast Guard—Ninth Coast Guard District  
*and the*  
Department of Transport of Canada, Pilotage Division

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## INTRODUCTION

This statistical report is prepared jointly by the Great Lakes Pilotage Staff, Ninth Coast Guard District, and the Pilotage Division of the Department of Transport of Canada.

The report provides statistics for the U.S. and Canadian pilots on the Great Lakes, registered and regulated pursuant to provisions of the Great Lakes Pilotage Act of 1960 and Chapter VI A of the Canada Shipping Act and includes all waters of Lakes Superior, Michigan, Huron, Erie and Ontario, their connecting and tributary waters, the St. Lawrence River as far east as St. Regis and adjacent port areas.

The report is presented in three parts: Pilot Registration, Pilotage Service, and Pilotage Receipts and Expenditures. The data is derived from primary personnel records, availability reports, pilotage source forms, annual audit reports and accounting records, both American and Canadian.

The year used is the calendar year, except as otherwise indicated. Data for prior years has been included, where available, to provide complete information illustrating the development of the service in the formulative period beginning May 1, 1961.

It will be noted that the number of pilots authorized and on the rolls have constantly increased since 1961, peaking in 1966-1967. However, the number of pilots in 1968 decreased for the first time, reflecting the continuing economic trend toward fewer vessels of greater tonnage.

PART I—REGISTRATION OF PILOTS  
 TABLE 1—NUMBER OF PILOTS AUTHORIZED  
 (By date of change)

	Total	Total		District No. 1		District No. 2		District No. 3		
		U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	Total
1961—May.....	104	34	70	12	20	9	47	13	3	16
1961—August.....	108	40	68	12	20	15	45	13	3	16
1962—July.....	112	48	64	14	22	21	39	13	3	16
1963—March.....	115	55	60	16	23	26	34	13	3	16
1964—June (parity).....	120	60	60	16	24	31	33	13	3	16
1965—January.....	148	74	74	17	25	45	45	12	4	16
1965—July.....	150	74	76	17	*27	44	45	12	4	16
1966—May.....	156	78	78	*21	29	45	45	12	4	16
1966—June.....	166	83	83	21	29	50	50	12	4	16
1966—July.....	170	85	85	21	29	50	50	14	6	20
1967.....	170	85	85	21	29	50	50	14	6	20
1968.....	153	74	79	20	26	40	49	14	4	18

\*Under date of 29 July 1965, two Canadian positions allocated for St. Regis/Snell Lock Pilotage; on 10 May 1966, the two compensating U.S. positions were allocated to District No. 1.

TABLE 2—NUMBER OF PILOTS ON ROLLS  
(Including Applicants temporarily registered)

(Dec. 31st)	Total	Total		District No. 1		District No. 2		District No. 3	
		U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada
1961.....	105	41	64	12	20	15	44	14	—
1962.....	117	54	63	14	22	24	38	16	3
1963.....	118	58	60	15	23	29	34	14	3
1964.....	128	65	63	17	23	36	37	12	3
1965.....	143	70	73	17	25	40	45	13	3
1966.....	161	76	85	19	*29	43	50	14	6
1967.....	161	80	81	21	**28	45	49	14	4
1968.....	153	74	79	20	26	40	49	14	4

\*Includes two positions allocated to Snell Lock/St. Regis.

\*\*Does not include one pilot active for entire operating season who retired 21 Dec. 1967.

TABLE 3(a)—PILOTS ATTRITION  
(Changes during calendar year)

Year	Total		Retired		Resigned		Deceased		Registration Revoked		Other*	
	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada
1961.....	5	1	1		2		1		1		2	
1962.....	14	8	1	5	3		1	1	1	1		1
1963.....	9	3	4	1		1	1	1			1	
1964.....	8	2	3	1		1	1	1	1		2	
1965.....	5	3	1		1	2	1	1				
1966.....	3	1	1		1	1						
1967.....	6	2	1	3			1				1	
1968.....	2	2	1	1	1							

\*Includes registrations which expired without application for renewal and registrations not renewed upon application.

TABLE 3(b)—PROJECTED RATE OF RETIREMENT AT AGE 65

Year	Total		District No. 1		District No. 2		District No. 3	
	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada
1969.....	1	1				1		
1970.....	5	3	2	1	2	2	2	
1971.....	5	2	3	2	2	2	1	
1972.....	3	2	1	1	2	2	2	
1973, etc.....	139	71	68	19	23	36	13	4

TABLE 4(a)—AGE OF PILOTS AS OF DECEMBER 31st

Year	29-39		40-49		50-59		60-65		Over 65	
	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada
1964.....	6	11	26	20	38	27	1	3	2	2
1965.....	4	11	25	29	35	27	6	7		
1966.....	5	12	27	32	36	28	8	9		
1967.....	5	9	29	29	39	29	7	14		
1968.....	4	10	25	28	38	29	7	12		

TABLE 4(b)—AVERAGE AGES (DECEMBER 31st)

Year	Total	District No. 1		District No. 2		District No. 3	
		U.S.	Canada	U.S.	Canada	U.S.	Canada
1964.....	50.4	48.1	45.5	51.1	53.2	51.9	50.3
1965.....	49.4	47.8	45.4	50.5	50.6	51.8	47.7
1966.....	49.1	47.8	47.6	51.6	50.3	50.6	46.7
1967.....	50.4	47.1	47.1	51.6	50.1	51.6	47.8
1968.....	50.5	48.2	47.6	52.4	50.9	52.6	48.8

TABLE 5(a)—APPLICANT PILOTS APPOINTED

Year	Total	District No. 1		District No. 2		District No. 3	
		U.S.	Canada	U.S.	Canada	U.S.	Canada
1963.....	13	1	1	8	3		
1964.....	17	3	4	9	1		
1965.....	29	3	2	12	10	1	
1966.....	26	4	2	4	11	3	
1967.....	12	3		6			
1968.....	0						

TABLE 5(b)—ATTRITION OF APPLICANT PILOTS

Year	Total	Registered		Resigned		Cancelled		Other	
		U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada
1963.....	13	11		1					2
1964.....	10	5	1	2					
1965.....	19	7	8	3		1			
1966.....	17	7	5	1	1			2	
1967.....	17	7	4	1	1	3		4	1
1968.....	4			2		2			





TABLE 6(b)—PERCENT OF AVAILABILITY BY YEAR

Year	Total			District No. 1			District No. 2			District No. 3		
	Total	U.S.		Total	U.S.		Total	U.S.		Total	U.S.	
		Canada	U.S.		Canada	U.S.		Canada	U.S.		Canada	U.S.
1965.....	89.72	90.83	88.66	95.88	96.40	95.55	86.21	87.40	85.03	93.38	95.29	85.35
1966.....	89.35	90.67	88.54	95.94	96.75	95.37	85.09	86.48	83.92	94.32	95.22	91.08
1967.....	87.29	87.18	87.39	94.23	93.16	95.01	84.00	84.91	83.19	86.22	85.84	87.55
1968.....	88.10	87.78	88.39	95.41	94.55	96.10	83.52	82.81	84.09	91.50	91.94	89.95

TABLE 6(c)—EFFECTIVE NUMBER OF PILOTS BY YEAR

Year	Total			District No. 1			District No. 2			District No. 3		
	Total	U.S.		Total	U.S.		Total	U.S.		Total	U.S.	
		Canada	U.S.		Canada	U.S.		Canada	U.S.		Canada	U.S.
1965.....	129.03	64.19	64.84	39.01	15.13	23.88	75.03	*36.74	38.29	14.99	12.32	2.67
1966.....	134.96	65.62	69.34	43.27	17.90	25.37	76.26	35.51	40.75	15.43	12.21	3.22
1967.....	138.18	67.73	70.45	43.69	18.19	25.50	78.97	37.52	41.45	15.52	12.02	3.50
1968.....	135.34	65.57	69.77	44.56	19.58	24.98	74.32	33.12	41.20	16.46	12.87	3.59

\*Includes Canadian pilots temporarily working under jurisdiction of the United States pool.

PART II—PILOTAGE SERVICE

TABLE 1—NUMBER OF ASSIGNMENTS

Year	Total	District No. 1	District No. 2	District No. 3
1961.....	9,033	3,406	3,728	1,899
1962.....	9,165	3,723	3,517	1,925
1963.....	9,845	3,616	*4,517	1,712
1964.....	12,929	4,566	6,186	2,177
1965.....	14,630	5,170	7,111	2,349
1966.....	14,118	5,261	6,582	2,275
1967.....	12,910	4,996	6,175	1,739
1968.....	13,791	4,903	6,818	2,070
Total.....	96,421	35,641	44,634	16,146

\*Dispatch at Lock 7, Welland Canal, District 2, initiated in 1963, increased assignments per canal transit.

TABLE 2—PILOTAGE ASSIGNMENTS AND WORKLOAD

	Grand Total	District No. 1			District No. 2			District No. 3		
		U.S. pilots	Canada pilots	Total	U.S. pilots	Canada pilots	Total	U.S. pilots	Canada pilots	Total
1968										
Number of assignments.....	13,791	2,225	2,678	4,903	3,006	3,812	6,818	1,643	427	2,070
Workload:										
Designated water hours.....	88,687	11,893	15,983	27,876	22,835	34,064	56,899	3,264	648	3,912
Undesignated water hours.....	97,526	9,743	9,568	19,311	30,138	26,563	56,701	15,750	5,764	21,514
Detained hours.....	70,188	2,154	2,865	5,019	31,027	30,385	61,412	2,764	993	3,757
Total hours.....	256,401	23,790	28,416	52,206	84,000	91,012	175,012	21,778	7,405	29,183

From: Source Form tabulation.

NUMBER OF ASSIGNMENTS BY DISTRICT

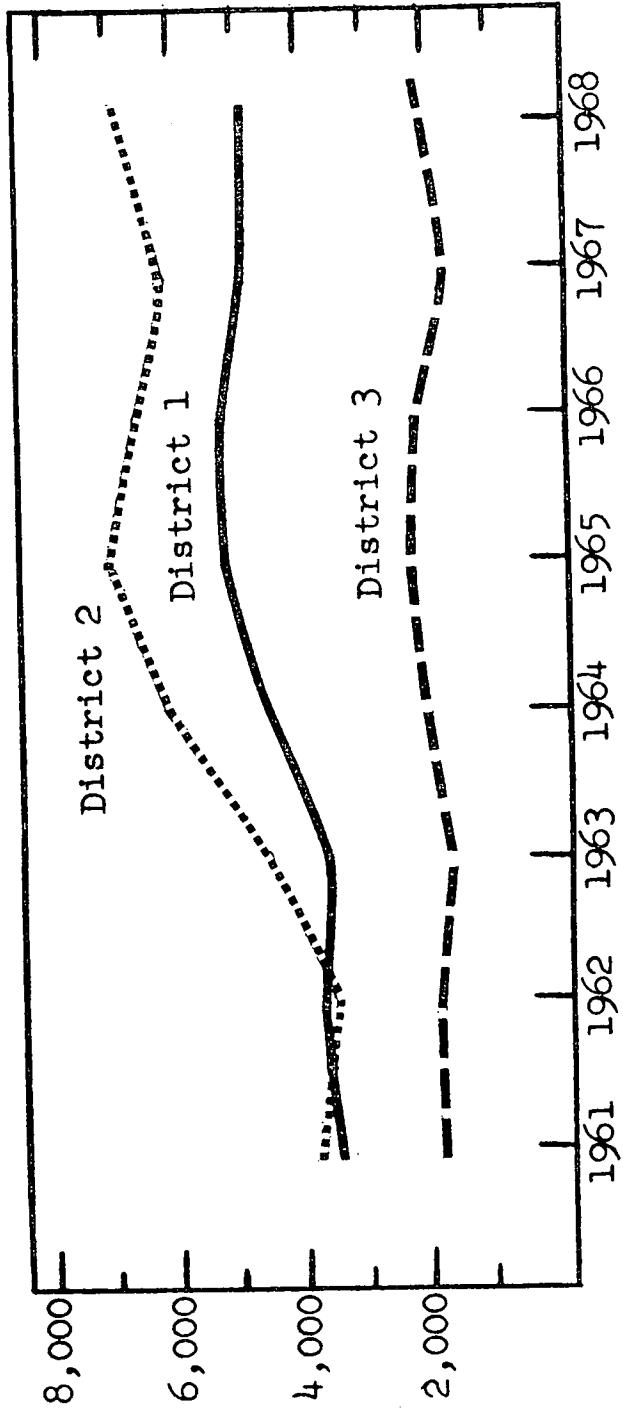


CHART I

TABLE 3—WORKLOAD PER EFFECTIVE PILOT  
(From Part I, Table 6)

1968	Number of effective pilots	Hours on Assignment <sup>1</sup>	Hours per pilot	Days of Season	Hours per day
District No. 1:					
United States.....	19.58	23,790	1,215	247	4.92
Canada.....	24.98	28,416	1,137	247	4.60
Total.....	44.56	52,206	1,171	247	4.74
District No. 2:					
United States.....	33.12	84,000	2,536	242	10.48
Canada.....	41.20	91,012	2,209	242	9.13
Total.....	74.32	175,012	2,354	242	9.73
District No. 3:					
United States.....	12.87	21,778	1,692	234	7.23
Canada.....	3.59	7,405	1,988	234	8.49
Total.....	16.46	29,183	1,772	234	7.57
GRAND TOTAL.....	135.34	256,401	1,894	241	7.86

<sup>1</sup>Hours on assignment includes total time on ship in both designated and undesignated waters.

TABLE 4—AVERAGE HOURS PER ASSIGNMENT

	Number of Assignments		Number of hours		Average hours per assignment	
	1967	1968	1967	1968	1967	1968
	District No. 1:					
United States.....	2,102	2,225	22,217	23,790	10.56	10.69
Canada.....	2,894	2,678	30,371	28,416	10.49	10.61
Total.....	4,996	4,903	52,588	52,206	10.52	10.64
District No. 2:						
United States.....	2,700	3,006	95,319	84,000	35.30	27.94
Canada.....	3,475	3,812	87,443	91,012	25.16	23.87
Total.....	6,175	6,818	182,762	175,012	29.59	25.66
District No. 3:						
United States.....	1,299	1,643	27,365	21,778	21.06	13.25
Canada.....	440	427	8,296	7,405	18.85	17.34
Total.....	1,739	2,070	35,661	29,183	20.50	14.09
<b>GRAND TOTAL.....</b>	<b>12,910</b>	<b>13,791</b>	<b>271,011</b>	<b>256,401</b>	<b>20.99</b>	<b>18.59</b>

TABLE 5—AVERAGE ASSIGNMENTS PER EFFECTIVE PILOT  
(Part I, Table 6)

	Effective number of pilots		Number of Assignments		Average number of assignments per pilot	
	1967	1968	1967	1968	1967	1968
District No. 1:						
United States.....	18.19	19.58	2,102	2,225	115.55	113.63
Canada.....	25.50	24.98	2,894	2,678	113.49	107.20
Total.....	43.69	44.56	4,996	4,903	114.35	110.03
District No. 2:						
United States.....	37.52	33.12	2,700	3,006	71.96	90.76
Canada.....	41.45	41.20	3,475	3,812	83.83	92.52
Total.....	78.97	74.32	6,175	6,818	78.19	91.73
District No. 3:						
United States.....	12.02	12.87	1,299	1,643	108.06	127.66
Canada.....	3.50	3.59	440	427	125.71	118.94
Total.....	15.52	16.46	1,739	2,070	112.04	125.75
GRAND TOTAL.....	138.18	135.34	12,910	13,791	93.42	101.89

TABLE 6—NUMBER OF SEAWAY TRANSITS BY FOREIGN FLAG VESSELS  
(Excluding United States and Canadian registered and enrolled vessels)

Year	Montreal-Lake Ontario Section		Welland Canal Section	
	Number of transits	Average GT per vessel	Number of transits	Average GT per vessel
1961.....	2,513	5,247	2,526	5,342
1962.....	2,548	5,593	2,607	5,774
1963.....	2,367	5,925	2,441	6,072
1964.....	2,711	6,232	3,129	6,442
1965.....	3,068	6,521	3,338	6,663
1966.....	2,775	6,899	2,748	7,115
1967.....	2,647	6,882	2,426	6,976
1968.....	2,456	7,567	2,382	7,696

From traffic reports of the St. Lawrence Seaway Authorities.



TABLE 7—RATIO OF DISPATCHES TO TRANSITS OF THE ST. LAWRENCE SEAWAY

Year	Total transits	Total dispatches	District No. 1		District No. 2		District No. 3		Total ratio
			Dispatches	Ratio	Dispatches	Ratio	Dispatches	Ratio	
1961.....	2,513	9,033	3,406	1.355	3,728	1.483	1,899	0.755	3.5945
1962.....	2,548	9,165	3,723	1.461	3,517	1.380	1,925	0.755	3.5969
1963*.....	2,367	9,845	3,616	1.527	4,517	1.908	1,712	0.723	4.1592
1964.....	2,711	12,929	4,566	1.684	6,186	2.281	2,177	0.803	4.7690
1965.....	3,068	14,630	5,170	1.685	7,111	2.317	2,349	0.765	4.7685
1966.....	2,775	14,118	5,261	1.896	6,582	2.372	2,275	0.820	5.0875
1967.....	2,647	12,910	4,996	1.887	6,175	2.333	1,739	0.657	4.8772
1968.....	2,456	13,791	4,903	1.996	6,818	2.776	2,070	0.843	5.6151

\*Dispatch, at Lock 7, Welland Canal, District 2, initiated in midsummer 1963, increased assignments per canal transit.

TRANSITS BY FOREIGN FLAG VESSELS—MONTREAL-LAKE ONTARIO SECTION

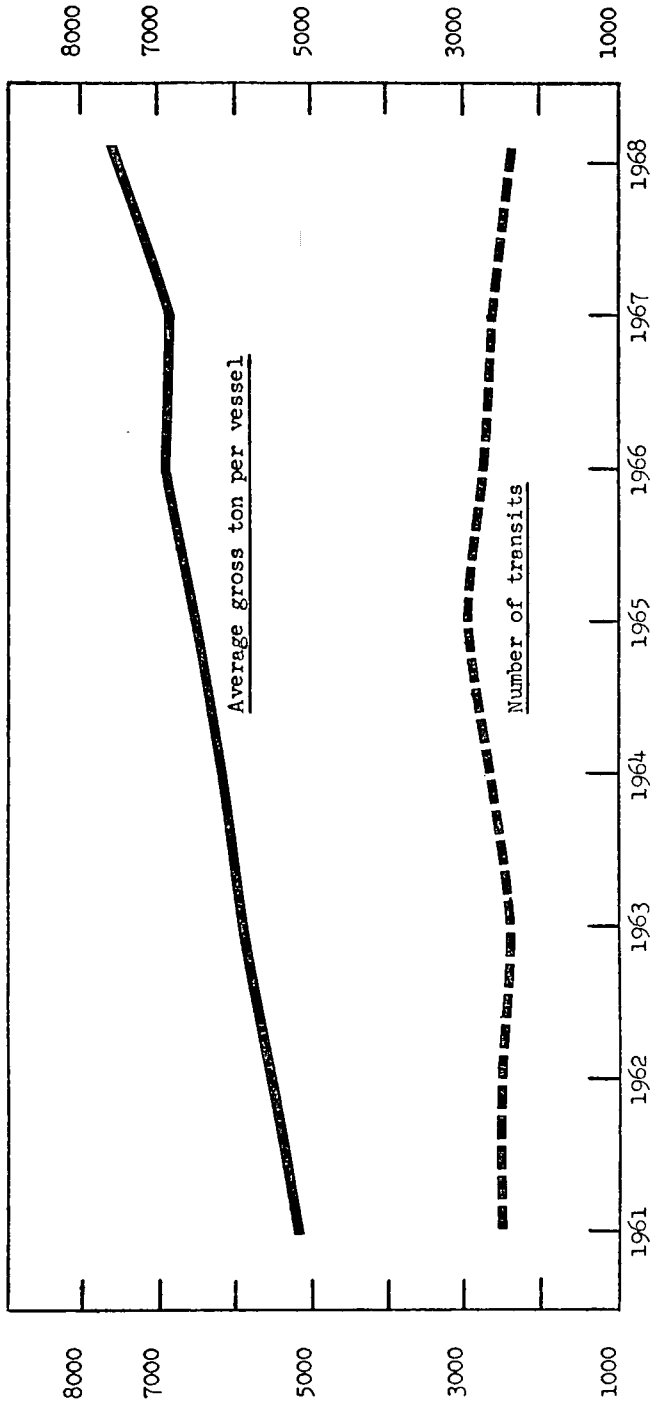


CHART 2

PART III—PILOTAGE RECEIPTS AND EXPENDITURES

TABLE 1—SUMMARY FOR 1968

(To nearest whole dollar or percent)

	Total (average)	District No. 1	District No. 2	District No. 3
Number of dispatches.....	13,791	4,903	6,818	2,070
Gross revenue per dispatch.....	\$ 246	\$ 188	\$ 293	\$ 224
Cost per dispatch.....	\$ 38	\$ 28	\$ 36	\$ 66
Net revenue per dispatch.....	\$ 208	\$ 160	\$ 257	\$ 158
Percent of cost to gross revenue.....	15	15	12	30
Average number of dispatches per effective pilot.....	102	110	92	126
Share of cost per effective pilot.....	\$ 3,850	\$ 3,076	\$ 3,318	\$ 8,352

TABLE 2—PILOTAGE RECEIPTS—1968 OPERATING SEASON

	Total	District No. 1		District No. 2		District No. 3	
		U.S. pilots	Canada pilots	U.S. pilots	Canada pilots	U.S. pilots	Canada pilots
Pilotage charges:							
In designated waters.....	\$2,410,705	\$295,274	\$403,530	\$655,741	\$ 884,616	\$143,757	\$27,787
In undesignated waters.....	909,970	88,939	95,536	280,095	202,694	187,416	55,290
Boat charges.....	71,742	17,415	17,597	9,266	6,723	15,474	5,267
Travel expenses.....	100,040	15,406	14,174	25,389	15,692	23,063	6,316
Total.....	\$3,492,457	\$417,034	\$530,837	\$970,491	\$1,109,725	\$369,710	\$94,660

From source form tabulation in both United States and Canadian currencies.

TABLE 3—PILOTAGE RECEIPTS AND EXPENDITURES BY NATIONALITY OF PILOT

	District No. 1		District No. 2		District No. 3	
	U.S. pilots	Canada pilots	U.S. pilots	Canada pilots	U.S. pilots	Canada pilots
<b>Total</b>						
Pilotage revenue.....	\$383,829	\$461,758	\$936,133	\$1,007,068	\$330,875	\$77,209
Reimbursable subsistence and travel.....	13,225	12,468	24,796	15,261	29,441	5,570
Reimbursable boat charges.....	17,091	17,010	9,188	6,608	16,797	3,919
Reimbursable dispatching and accounting charges.....	8,894	8,825	—	—	—	—
<b>Total revenue.....</b>	<b>\$423,039</b>	<b>\$500,061</b>	<b>\$970,117</b>	<b>\$1,028,937</b>	<b>\$377,113</b>	<b>\$86,698</b>
<b>Expenses:*</b>						
Pilots subsistence and travel.....	13,225	12,429	27,935	17,924	32,189	7,511
Boat charges.....	32,550	36,552	33,075	33,930	38,371	8,954
Dispatching and accounting.....	12,520	15,850	44,128	48,444	16,629	3,880
Communications.....	2,531	3,204	6,544	6,637	5,009	1,169
Other.....	3,644	4,614	14,148	13,885	19,285	4,500
<b>Total expenses.....</b>	<b>\$ 64,470</b>	<b>\$ 72,649</b>	<b>\$125,830</b>	<b>\$ 120,820</b>	<b>\$111,483</b>	<b>\$26,014</b>
<b>Net earnings.....</b>	<b>\$358,569</b>	<b>\$427,412</b>	<b>\$844,287</b>	<b>\$ 908,117</b>	<b>\$265,630</b>	<b>\$60,684</b>

\*Expenses include only those recognized in inter-association settlements. From accounting records in United States dollars.

TABLE 4(a)—COST OF OPERATION PER ASSIGNMENT

	Total			District No. 1			District No. 2			District No. 3		
	1966	1967	1968	1966	1967	1968	1966	1967	1968	1966	1967	1968
	Number of assignments.....	14, 118	12, 910	13, 791	5, 261	4, 996	4, 903	6, 582	6, 175	6, 818	2, 275	1, 739
Pilot subsistence and travel.....	\$ 4.89	\$ 6.70	\$ 8.06	\$ 4.82	\$ 4.82	\$ 5.23	\$ 2.93	\$ 5.88	\$ 6.72	\$10.75	\$15.01	\$19.18
Boat charges.....	10.92	12.18	13.30	9.38	11.82	14.09	9.31	8.87	9.83	19.14	24.93	22.86
Dispatching and accounting.....	11.44	14.08	10.26	8.81	12.87	5.79	13.32	14.60	13.58	12.07	15.77	9.91
Communications.....	1.72	1.65	1.82	1.33	.97	1.17	1.59	1.93	1.93	2.96	2.61	2.98
Other.....	2.27	4.49	4.35	.98	.47	1.68	2.83	5.48	4.11	3.62	12.53	11.49
Total expense per assignment.....	\$ 31.24	\$39.10	\$37.79	\$25.32	\$30.95	\$27.96	\$29.98	\$36.76	\$36.17	\$48.54	\$70.85	\$66.42

TABLE 4(b)—TOTAL REVENUE AND EXPENSE PER ASSIGNMENT

	Total			District No. 1			District No. 2			District No. 3		
	1966	1967	1968	1966	1967	1968	1966	1967	1968	1966	1967	1968
	Gross earnings.....	\$196.31	\$210.09	\$245.52	\$156.97	\$168.13	\$188.27	\$234.04	\$245.16	\$293.20	\$178.13	\$206.11
Expenses.....	31.24	39.10	37.79	25.32	30.95	27.96	29.98	36.76	36.17	48.54	70.85	66.42
Net earnings per assignment.....	\$165.07	\$170.99	\$207.73	\$131.65	\$137.18	\$160.31	\$204.06	\$208.40	\$257.03	\$129.59	\$135.26	\$157.64
Percent of expenses to revenue.....	15.91%	18.61%	15.39%	16.13%	18.40%	14.85%	12.81%	14.99%	12.34%	27.25%	34.37%	29.64%

In United States dollars.

TABLE 5--SUMMARY OF COST PER ASSIGNMENT BY YEAR  
(To nearest whole dollar)

	Total (average)	District No. 1	District No. 2	District No. 3
1961.....	\$33	\$23	\$38	\$41
1962.....	44	30	49	62
1963.....	34	30	29	53
1964.....	32	25	31	53
1965.....	28	22	27	46
1966.....	31	25	30	49
1967.....	39	31	37	71
1968.....	38	28	36	66
Yearly average.....	\$35	\$27	\$35	\$55

TABLE 6—NET EARNINGS PER EFFECTIVE PILOT  
(Part I, Table 6)

	Number of pilots		Net earnings		Average earnings	
	1967	1968	1967	1968	1967	1968
District No. 1:						
United States.....	18.19	19.58	\$ 297,627	\$ 358,569	\$16,362	\$18,313
Canada.....	25.50	24.98	387,733	427,412	15,205	17,110
Total.....	43.69	44.56	685,360	785,981	15,686	17,638
District No. 2:						
United States.....	37.52	33.12	663,825	844,287	17,692	25,492
Canada.....	41.45	41.20	623,038	908,117	15,031	22,042
Total.....	78.97	74.32	1,286,863	1,752,404	16,295	23,579
District No. 3:						
United States.....	12.02	12.87	185,962	265,630	15,471	20,639
Canada.....	3.50	3.59	49,248	60,684	14,070	16,903
Total.....	15.52	16.46	235,210	326,314	15,155	19,824
<b>GRAND TOTAL.....</b>	<b>138.18</b>	<b>135.34</b>	<b>\$2,207,433</b>	<b>\$2,864,699</b>	<b>\$15,975</b>	<b>\$21,166</b>

Average earnings does not represent take-home pay as recognized expense, does not include all items of travel, insurance, taxes and individual expense.

TABLE 7—PILOTAGE RECEIPTS AND EXPENDITURES BY YEAR  
(In U.S. dollars)

	Gross earnings	Expenses	Percent of gross	Net earnings
<b>District No. 1:</b>				
1961.....	\$585,807	\$ 78,295	13.36	\$507,512
1962.....	639,602	111,148	17.38	528,454
1963.....	596,271	109,609	18.38	486,662
1964.....	713,956	113,133	15.84	600,823
1965.....	794,052	115,449	14.54	678,603
1966.....	825,837	133,219	16.13	692,618
1967.....	839,998	154,638	18.40	685,360
1968.....	923,100	137,119	14.85	785,981
Yearly average.....	\$739,452	\$119,076	16.10	\$620,751
<b>District No. 2:</b>				
1961.....	\$ 911,594	\$142,113	15.59	\$ 769,481
1962.....	975,491	172,774	17.71	802,717
1963.....	1,061,301	131,525	12.37	929,776
1964.....	1,344,635	188,926	14.05	1,155,709
1965.....	1,576,227	189,659	12.03	1,386,568
1966.....	1,540,429	197,336	12.81	1,343,093
1967.....	1,513,861	226,998	14.99	1,286,863
1968.....	1,999,054	246,650	12.34	1,752,404
Yearly average.....	\$1,365,324	\$186,997	13.69	\$1,178,326
<b>District No. 3:</b>				
1961.....	\$237,970	\$ 77,716	32.66	\$160,254
1962.....	338,590	118,637	35.04	219,953
1963.....	322,859	90,981	28.17	231,878
1964.....	417,304	115,360	27.64	301,944



1965.....	423,552	107,116	25.29	316,436
1966.....	405,247	110,434	27.25	294,813
1967.....	358,433	123,223	34.37	235,210
1968.....	463,811	137,497	29.65	326,314
Yearly average.....	\$370,970	\$110,120	29.68	\$260,850
Yearly totals:				
1961.....	\$1,735,371	\$298,124	17.18	\$1,437,247
1962.....	1,953,683	402,559	20.61	1,551,124
1963.....	1,980,431	332,115	16.77	1,648,316
1964.....	2,475,895	417,419	16.86	2,058,476
1965.....	2,793,831	412,224	14.75	2,381,607
1966.....	2,771,513	440,989	15.91	2,330,524
1967.....	2,712,293	504,860	18.61	2,207,433
1968.....	3,385,965	521,266	15.39	2,864,699
Yearly average.....	\$2,476,122	\$416,194	16.80	\$2,059,928



III. ACCIDENTS (without damage to ship)									
(a) Damage to pier or installation.....	0	1	0	0	0	0	0	0	0
(b) Damage to buoys.....	0	0	0	0	0	0	0	0	0
(c) Damage to lock	0	0	2	0	0	0	0	0	0
(i) Approach wall or fender.....	0	0	0	0	0	0	0	0	1
(ii) Lock wall or lock fender.....	0	0	0	2	0	0	0	0	0
IV. INCIDENTS (without any damage whatsoever)									
(a) Striking pier, installation, lock or bridge.....	3	2	0	0	0	0	0	0	0
(b) Striking vessel berthing or unberthing.....	0	0	0	0	0	0	0	0	0
(c) Striking vessel at anchorage, lock or bridge.....	1	0	0	0	0	0	0	0	0
(d) Striking buoys.....	0	0	0	0	0	0	0	0	0
(e) Other.....	2	0	1	1	0	0	0	0	1
	6	2	1	0	0	0	0	0	1
GRAND TOTAL.....	18	9	8	6	6	7	10	10	10
	21	15	11	7	10	10	10	10	10

SOURCE: Ex. 1467.

Appendix B(1)(b)

SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH  
A DISTRICT NO. 1 PILOT ON BOARD DURING 1964

Nineteen sixty-four had the greatest number of events in the past six-year period, details as follows:

---

---

A. EVENTS WHILE NAVIGATING

I. MAJOR CASUALTIES (with or without loss of life)—*Major strandings*

1. June 21—*Stella Nova* grounded in U.S. Narrows at Alexandria Bay; caused by steering gear failure.
2. November 9—*Belgien* grounded at McNair Island; caused by fog and pilot's error.

II. MINOR CASUALTIES (without loss of life)—*Minor strandings*

1. June 11—*Venus* grounded in U.S. Narrows at Point Vivian; caused by steering gear failure.

III. ACCIDENTS (other than shipping casualties)

—Nil

IV. INCIDENTS (without any damage whatsoever)

—Nil

B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK

I. MAJOR CASUALTIES (with or without loss of life)

—Nil

II. MINOR CASUALTIES (without loss of life)—*Minor damage to ship*

(i) *Striking pier or installation*

—Nil

(ii) *Striking vessel berthing or unberthing*

—Nil

(iii) *Striking vessel at anchorage, lock or bridge*

—Nil

(iv) *Striking approach wall or fender*

1. August 13—*Waldemar Peter* struck tie-up wall at Eisenhower lock; caused by wind when manœuvring.
2. August 24—*Alheli* struck approach wall at Iroquois lock while entering upbound; caused by wind when manœuvring.
3. October 31—*Totem Star* struck the upper approach wall at Eisenhower lock; caused when vessel took a sheer while manœuvring.
4. November 16—*Bolivia Maru* struck the approach wall above St. Lambert lock; caused by wind when manœuvring.

(v) *Striking lock wall or lock fender*

1. May 27—*Manchester Trader* struck the side of Eisenhower lock; caused by wind while manœuvring.
2. June 4—*Orient Merchant* struck the north side of Eisenhower lock; caused by manœuvring trouble.
3. June 14—*De Soto County* struck lock fender leaving Iroquois lock upbound caused by Master's error when manœuvring.

4. June 27—*Delphin* struck wall in Iroquois lock; caused when moorings parted while manœuvring.
5. June 30—*New Kailing* struck Snell lock with propeller; caused when vessel took a sheer while manœuvring.
6. July 28—*Magister* struck wall in Eisenhower lock when entering while manœuvring.
7. October 12—*Tsukishima Maru* struck wall in Iroquois lock; caused by slow engine response while manœuvring.

(vi) *Striking lock gate or gate fender*  
—Nil

(vii) *Striking bridge*

1. May 2—*Apollonia* struck bascule bridge entering Iroquois lock upbound; caused by wind while manœuvring; vessel sheered to starboard.

III. ACCIDENTS (without damage to ship)  
—Nil

IV. INCIDENTS (without any damage whatsoever)

(a) *Striking pier, installation, lock or bridge*

1. April 23—*Crystal Diamond* struck approach wall at Eisenhower lock; caused by wind when manœuvring.
2. June 5—*Point Aconi* struck the south wall of Snell lock; caused by pilot's error when manœuvring.
3. October 23—*Ilse Schulte* struck Snell lock wall; caused when vessel took a sheer while manœuvring.

(b) *Striking vessel berthing or unberthing*  
—Nil

(c) *Striking vessel at anchorage, lock or bridge*

1. July 26—*Torsholm* being second vessel in tandem lockage at Iroquois lock entering upbound collided with stern of *Madgeburg* in lock; caused by defective air-control valve on main engine of *Torsholm*, and to four mooring lines breaking in succession during placement on bollards.

(d) *Striking buoys*  
—Nil

(e) *Other—strandings*

1. August 5—*Michael L.* grounded leaving berth at Massena; caused by current when manœuvring.
2. August 16—*Adrian* grounded leaving berth at Toronto when manœuvring.

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SOURCE: Ex. 1467 (Nov. 17, 1970 revision).

Appendix B(2)(a)  
 COMPARATIVE STATISTICAL ANALYSIS OF SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH A LAKE ONTARIO PILOT ON BOARD DURING THE YEARS 1964-1969

	1964	1965	1966	1967	1968	1969
<b>A. EVENTS WHILE NAVIGATING</b>						
I. MAJOR CASUALTIES (with or without loss of life).....	0	0	0	0	0	0
II. MINOR CASUALTIES (without loss of life)—Minor stranding.....	0	0	0	1	0	0
	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
<b>B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK</b>						
I. MAJOR CASUALTIES (with or without loss of life)—Heavy damage to ship.....	0	0	0	0	0	0
II. MINOR CASUALTIES (without loss of life).....	1	1	1	3	3	1
(a) Minor strandings.....	1	1	1	3	3	1
(b) Minor damage to ship.....	0	0	0	0	0	0
(i) Striking pier or installation.....	0	0	0	0	0	0
(ii) Striking vessel berthing or unberthing.....	0	0	0	0	0	0
(iii) Striking vessel at anchorage, lock or bridge.....	0	0	0	0	0	0
(iv) Striking approach wall or fender.....	0	0	0	0	0	0
(v) Striking lock wall or lock fender.....	0	0	0	1	0	0
(vi) Striking lock gate or gate fender.....	0	0	0	0	0	0
(vii) Striking bridge.....	0	0	0	0	1	0
(viii) Other.....	0	0	1	0	0	0
	<u>4</u>	<u>2</u>	<u>2</u>	<u>5</u>	<u>4</u>	<u>1</u>
	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>III. ACCIDENTS (without damage to ship)—Damage to buoy.....</b>						
<b>IV. INCIDENTS (without any damage whatsoever)</b>						
(a) Striking pier, installation, lock or bridge.....	0	0	0	1	1	0
(b) Stranding.....	1	0	1	0	0	0
	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
	<u>6</u>	<u>3</u>	<u>3</u>	<u>6</u>	<u>5</u>	<u>2</u>
<b>GRAND TOTAL.....</b>	<u>6</u>	<u>3</u>	<u>3</u>	<u>7</u>	<u>5</u>	<u>2</u>

SOURCE: Ex. 1467.

## Appendix B(2)(b)

SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH  
A LAKE ONTARIO PILOT ON BOARD DURING 1967

Nineteen sixty-seven had the greatest number of events in the past six-year period, details as follows:

## A. EVENTS WHILE NAVIGATING

## I. MAJOR CASUALTIES (with or without loss of life)

—Nil

II. MINOR CASUALTIES (without loss of life)—*Minor strandings*

1. November 20—*Aigle d'Ocean* grounded in Lake Ontario; caused by error of navigation.

## III. ACCIDENTS (other than shipping casualties)

—Nil

## IV. INCIDENTS (without any damage whatsoever)

—Nil

## B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK

## I. MAJOR CASUALTIES (with or without loss of life)

—Nil

## II. MINOR CASUALTIES (without loss of life)

(a) *Minor strandings*

—Nil

(b) *Minor damage to ship*(i) *Striking pier or installation*

1. July 27—*Arna* struck corner of wharf while berthing in Toronto harbour; caused by pilot's error.
2. September 22—*Texas Maru* struck wharf in Toronto harbour; caused by engine failure.
3. November 29—*Pilo Blanco (Pico Blanco)* struck wharf in Toronto harbour; caused when anchor would not drop as required due to ice.

(ii) *Striking vessel berthing or unberthing*

1. October 31—*Texas Maru* collided with *Seattle Maru* in Toronto harbour while manœuvring.

(iii) *Striking vessel at anchorage, lock or bridge*

—Nil

(iv) *Striking approach wall or fender*

—Nil

(v) *Striking lock wall or lock fender*

1. June 7—*Bevelyn* downbound struck wall while leaving lock I in Welland Canal; caused by propeller wash of vessel ahead in lock (Ex. 1541(ee)).

## III. ACCIDENTS (without damage to ship)

—Nil

IV. INCIDENTS (without any damage whatsoever)—*Striking pier*

1. April 12—*Widan* touched pier with her stern while backing out in Toronto harbour; caused by stern overlapping.

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SOURCE: Ex. 1467 (Nov. 26, 1970 revision).

Appendix B(3)(a)  
**COMPARATIVE STATISTICAL ANALYSIS OF SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS  
 WITH A DISTRICT NO. 2 PILOT ON BOARD DURING THE YEARS 1964-1969**

	1964	1965	1966	1967	1968	1969
<b>A. EVENTS WHILE NAVIGATING</b>						
<b>I. MAJOR CASUALTIES (with or without loss of life)</b>						
(a) Loss of life or abandonment of ship.....	0	1	1	0	0	1
(b) Major strandings.....	1	1	0	0	0	0
(c) Heavy damage to ship (other than above).....	1	0	0	0	1	0
	2	2	1	0	1	1
<b>II. MINOR CASUALTIES (without loss of life)</b>						
(a) Minor strandings.....	5	6	2	3	5	1
(b) Minor damage to ship.....	8	8	10	8	4	2
	13	14	12	11	9	3
<b>III. ACCIDENTS (other than shipping casualties)</b>	0	0	0	0	0	0
<b>IV. INCIDENTS (without any damage whatsoever)</b>						
(a) Touching bottom or bank in channel.....	5	11	8	9	8	5
(b) Other.....	0	5	0	1	1	3
	5	16	8	10	9	8
	20	32	21	21	19	12
<b>B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK</b>						
<b>I. MAJOR CASUALTIES (with or without loss of life)</b>						
(a) Major strandings.....	1	0	0	0	0	0
(b) Heavy damage to ship.....	0	1	0	1	0	0
	1	1	0	1	0	0
<b>II. MINOR CASUALTIES (without loss of life)</b>						
(a) Minor strandings.....	1	0	0	0	0	0





Appendix B(3)(b)

SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH  
A DISTRICT NO. 2 PILOT ON BOARD DURING 1965

Nineteen sixty-five had the greatest number of events in the past six-year period, details as follows:

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A. EVENTS WHILE NAVIGATING

I. MAJOR CASUALTIES (with or without loss of life)

(a) *Loss of life or abandonment of ship*

1. May 23—*Patignies* collided with a yacht in the Detroit River resulting in the loss of two lives; caused by navigational error on the part of the pleasure craft.

(b) *Major stranding*

1. April 27—*Orient Merchant* grounded off Port Colborne; caused by fog.

II. MINOR CASUALTIES (without loss of life)

(a) *Minor strandings*

1. April 21—*Reinhart-Lorenz Russ* grounded in Lake St. Clair; caused by fog.
2. April 25—*Kini* grounded in St. Clair River; caused by navigational error of judgement.
3. July 1—*Holtheim* grounded at Sarnia; caused by wheelsman's error.
4. July 2—*Stolt Avenir* struck river bank in St. Clair River; caused by steering gear failure.
5. November 8—*Emma Johanna* struck bank of Welland Canal; caused by dense fog.
6. November 23—*Holsworthy Beacon* grounded in Lake Ontario; caused by pilot's error.

(b) *Minor damage to ship*

1. April 26—*Eretria* struck *Blanche Hindman* in Welland Canal while manœuvring.
2. May 19—*Stolt Bjorn* struck *Constance Bowater* in Welland Canal while manœuvring.
3. May 23—*Carl Trautwein* struck *Senator of Canada* in Welland Canal while manœuvring.
4. June 11—*African Lightning* struck *Senator of Canada* in Welland Canal while manœuvring.
5. August 27—*Vent Kimolos* collided with *Chee Lee* in Welland Canal; caused by wrong engine movement.
6. September 17—*Manchester Renown* and *Red Wing* collided in Welland Canal; caused by pilot's error.
7. November 3—*Argo* and *Mercury* collided in Welland Canal; caused by suction.
8. November 27—*Alison* lost both anchors off Port Colborne; caused by gale force wind and light ship.

III. ACCIDENTS (other than shipping casualties)

—Nil

IV. INCIDENTS (without any damage whatsoever)

(a) *Touching bottom or bank in channel*

1. May 29—*Lake Eyre* touched bank in Welland Canal; caused by wind.
2. July 25—*Dageid* touched bottom in Livingstone Channel; cause unknown.
3. August 22—*Beaverelm* struck canal bank in Welland Canal; caused by bank suction.
4. September 4—*Mesologi* struck bank in Welland Canal; caused by bank suction.
5. September 6—*Melusine* touched bottom in Livingstone Channel; cause unknown.
6. September 17—*Beaverfir* touched bank in Welland Canal; caused by bank suction.
7. October 7—*Pointe Noire* grounded in Lake St. Clair; caused by bottom suction.
8. October 31—*Argo* touched bottom in St. Clair River; caused by low water level.
9. November 11—*Alison* struck bank of Welland Canal; caused by helm being put the wrong way.
10. November 12—*Montreal City* grounded at South East Shoal; caused by Master's error.
11. November 27—*Ramon de Larrinaga* grounded in St. Marys River; caused by steering gear failure.

(b) *Other*

1. May 19—*Patignies* struck by downbound ship in Welland Canal; caused by restricted room.
2. August 4—*South America* collided with *T.R. McLagan* in Welland Canal; caused by pilot's error.
3. August 15—*Clarita Schroeder* collided with *Silver Isle* in Welland Canal; caused by bank suction.
4. September 23—*Aramis* collided with *Cape Breton Miner* above bridge 11 in Welland Canal; caused by suction.
5. November 11—*Visund* struck by passing ship in Welland Canal; caused by excessive speed.

B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK

I. MAJOR CASUALTIES (with or without loss of life)—*Heavy damage to ship*

1. August 27—*Eva Jeanette* collided with tug *Vegco* in Welland Canal lock 4; caused by wrong engine movement; tug sank.

II. MINOR CASUALTIES (without loss of life)

(a) *Minor strandings*

—Nil

(b) *Minor damage to ship*

(i) *Striking pier or installation*

1. August 13—*Tronstad* struck Penny dock at Ashtabula, Ohio; caused by high wind.
2. October 9—*Asama Maru* struck Government dock at Sarnia; caused by pilot's error.

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- (ii) *Striking vessel berthing or unberthing*
  - 1. May 10—*Granfors* struck *Ruth Hindman* alongside at lock 7 in Welland Canal while manoeuvring.
- (iii) *Striking vessel at anchorage, lock or bridge*
  - Nil
- (iv) *Striking approach wall or fender*
  - 1. April 18—*Susanne Fritzen* struck entrance to lock 8, north end, in Welland Canal; caused by ice.
  - 2. June 11—*Faro* struck approach wall in Welland Canal while manoeuvring.
  - 3. June 16—*Cissoula* struck west approach wall of lock 1 in Welland Canal; caused by avoiding another ship during high wind.
- (v) *Striking lock wall or lock fender*
  - 1. April 16—*Vikara* struck Welland Canal lock wall while manoeuvring.
  - 2. May 10—*Union Transport* struck Welland Canal lock wall; caused by pilot's error.
  - 3. May 15—*Bel Mare* struck Welland Canal wall while manoeuvring.
  - 4. July 20—*La Marea* struck Welland Canal wall while manoeuvring.
  - 5. August 7—*Amenity* struck Welland Canal wall; caused when vessel took a sheer.
  - 6. September 15—*Ornefjell* struck Port Weller lock wall; caused by wind.
  - 7. October 25—*Polegate* struck Welland Canal wall; caused by wind.
  - 8. October 26—*Henriette Wilhelmine Schulte* struck Welland Canal lock wall while manoeuvring.
  - 9. November 11—*Orient Lakes* struck Welland Canal lock wall while being raised in lock.
  - 10. November 11—*Alison* struck Welland Canal lock wall while manoeuvring.
  - 11. November 25—*Texaco Mississippi* struck Welland Canal wall; caused by pilot's orders being countermanded and Master taking over.
- (vi) *Striking lock gate or gate fender*
  - 1. July 14—*Triada* struck Welland Canal guard gate wall while manoeuvring.
- (vii) *Striking bridge*
  - 1. May 27—*Marianna* struck bridge abutment in Welland Canal; caused by suction of passing ship.
- (viii) *Other*
  - 1. April 28—*Expedito* struck tie-up wall above lock 6, west side in Welland Canal while manoeuvring.
  - 2. May 25—*African Lightning* struck wall in Welland Canal; caused by wind and avoiding collision.
  - 3. September 23—*Prins Alexander* lost anchor at Sarnia; caused by anchoring in strong current.

4. November 25—*Luka Botic* struck wall at bridge 21; caused by wheel being put the wrong way.

III. ACCIDENTS (without damage to ship)

(a) *Damage to pier or installation*

1. November 3—*Manchester Regiment* struck pier at Sarnia; caused by pilot's error.

(b) *Damage to buoys*

1. June 27—*Degero* struck mooring dolphin in Welland Canal while manoeuvring.

(c) *Damage to lock*

—Nil

(d) *Damage to bridge*

1. June 1—*Middlesex Trader* struck bridge at Welland Canal lock 2 while manoeuvring.
2. November 7—*Surrey Trader* struck Bridge 3 in Welland Canal while manoeuvring.

IV. INCIDENTS (without any damage whatsoever)

(a) *Striking pier, installation, lock or bridge*

1. April 12—*Leadale* struck Welland Canal Bridge 15 abutment; caused by wind.
2. July 21—*Sunvalley* struck Thorold pier; caused by wrong engine movement.
3. July 23—*Zenobia Martini* struck Welland Canal lock wall; caused when vessel took a sheer.
4. August 1—*Kini* struck Welland Canal lock wall; caused when vessel took a sheer.
5. August 4—*Susanne Fritzen* touched bridge abutment in Welland Canal; caused by blinding car lights.
6. August 31—*Santa Elizabetta* struck Welland Canal lock wall; caused when vessel took a sheer.
7. September 8—*Protostatis* struck Welland Canal lock fender; caused by steering difficulties.
8. October 2—*Seven Suns* struck bridge in Welland Canal; caused by high wind.
9. October 16—*Salvada* scraped pier at Cleveland, Ohio, while manoeuvring.
10. October 18—*Glaisdale* struck the wall in No. 3 lock of the Welland Canal while manoeuvring.
11. November 11—*Jawaga* struck the guard gate at lock 7 of the Welland Canal; caused by Master's error.

(b) *Striking vessel berthing or unberthing*

1. August 1—*Mary Nubel* touched *Margit Brovig* at wharf in Port Weller; caused by current.

(c) *Striking vessel at anchorage, lock or bridge*

1. November 17—*Beaverroak* struck stern of tied-up ship in Port Weller harbour; caused by high wind while mooring.

Appendix B(4)(a)

COMPARATIVE STATISTICAL ANALYSIS OF SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH A LAKE HURON/LAKE MICHIGAN PILOT ON BOARD DURING THE YEARS 1964-1969

	1964	1965	1966	1967	1968	1969
<b>A. EVENTS WHILE NAVIGATING</b>						
I. MAJOR CASUALTIES (with or without loss of life).....	0	0	0	0	0	0
II. MINOR CASUALTIES (without loss of life)—Minor damage to ship.....	0	0	1	0	1	0
III. ACCIDENTS (other than shipping casualties).....	0	0	0	0	0	0
IV. INCIDENTS (without any damage whatsoever)—Touching bottom in channel.....	0	1	0	0	0	0
	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>
<b>B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK</b>						
I. MAJOR CASUALTIES (with or without loss of life).....	0	0	0	0	0	0
II. MINOR CASUALTIES (without loss of life)						
(a) Minor strandings.....	0	0	0	0	0	0
(b) Minor damage to ship						
(i) Striking pier or installation.....	0	0	1	1	0	2
(ii) Striking vessel berthing or unberthing.....	0	0	0	0	0	0
(iii) Striking vessel at anchorage, lock or bridge.....	0	0	0	0	0	0
(iv) Striking approach wall or fender.....	0	0	0	0	0	0
(v) Striking lock wall or lock fender.....	0	0	1	0	0	0
(vi) Striking lock gate or gate fender.....	0	0	1	0	0	0
(vii) Striking bridge.....	0	1	1	0	1	0
(viii) Other—striking breakwater.....	1	0	0	0	0	0
	<u>1</u>	<u>1</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>2</u>
III. ACCIDENTS (without damage to ship).....	0	0	0	0	0	0
IV. INCIDENTS (without any damage whatsoever)—Striking pier, installation or lock						
	<u>1</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>2</u>
<b>GRAND TOTAL.....</b>	<u>1</u>	<u>3</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>2</u>

SOURCE: Ex. 1467.

Appendix B(4)(b)

SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH  
A LAKE HURON/LAKE MICHIGAN PILOT ON BOARD  
DURING 1966

Nineteen sixty-six had the greatest number of events in the past six-year period, details as follows:

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A. EVENTS WHILE NAVIGATING

I. MAJOR CASUALTIES (with or without loss of life)  
—Nil

II. MINOR CASUALTIES (without loss of life)—*Minor damage to ship*

1. December 3—*Cedar* collided with *Irving S. Olds* in Welland Canal; caused by fog.

III. ACCIDENTS (other than shipping casualties)  
—Nil

IV. INCIDENTS (without any damage whatsoever)  
—Nil

B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK

I. MAJOR CASUALTIES (with or without loss of life)  
—Nil

II. MINOR CASUALTIES (without loss of life)

(a) *Minor strandings*  
—Nil

(b) *Minor damage to ship*

(i) *Striking pier or installation*

1. July 22—*Texas Maru* struck crane at Milwaukee while manoeuvring.

(ii) *Striking vessel berthing or unberthing*  
—Nil

(iii) *Striking vessel at anchorage, lock or bridge*  
—Nil

(iv) *Striking approach wall or fender*  
—Nil

(v) *Striking lock wall or lock fender*

1. November 20—*Vasilios R.* struck wall in locks 2 and 3 of Welland Canal; caused when vessel took a sheer.

(vi) *Striking lock gate or gate fender*

1. November 3—*Transquebec* struck guard gate wall in Welland Canal; caused by high wind.

(vii) *Striking bridge*

1. August 27—*Mar Ligure* struck bridge while under tow in Calumet River; caused by tow line parting.

III. ACCIDENTS (without damage to ship)  
—Nil

IV. INCIDENTS (without any damage whatsoever)  
—Nil

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SOURCE: Ex. 1467 (Jan. 21, 1970 revision).

Appendix B(5)(a)  
**COMPARATIVE STATISTICAL ANALYSIS OF SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS  
 WITH A DISTRICT NO. 3 PILOT ON BOARD DURING THE YEARS 1964-1969**

	1964	1965	1966	1967	1968	1969
<b>A. EVENTS WHILE NAVIGATING</b>						
I. MAJOR CASUALTIES (with or without loss of life)—Major stranding.....	0	0	1	0	0	0
II. MINOR CASUALTIES (without loss of life)—Minor stranding.....	1	0	0	0	0	0
III. ACCIDENTS (other than shipping casualties).....	0	0	0	0	0	0
IV. INCIDENTS (without any damage whatsoever)—Touching bottom in channel.....	1	0	0	0	0	0
	2	0	1	0	0	0
<b>B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK</b>						
I. MAJOR CASUALTIES (with or without loss of life).....	0	0	0	0	0	0
II. MINOR CASUALTIES (without loss of life)—Striking pier, installation or lock.....	0	2	5	1	1	0
III. ACCIDENTS (without damage to ship).....	0	0	0	0	0	0
IV. INCIDENTS (without any damage whatsoever)—Striking vessel berthing or un-berthing.....	0	0	0	1	0	0
	0	2	5	2	1	0
<b>GRAND TOTAL.....</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>0</b>

SOURCE: Ex. 1467.



## Appendix B(5)(b)

SHIPPING CASUALTIES, ACCIDENTS AND INCIDENTS WITH  
A DISTRICT NO. 3 PILOT ON BOARD DURING 1966

Nineteen sixty-six had the greatest number of events in the past six-year period, details as follows:

## A. EVENTS WHILE NAVIGATING

I. MAJOR CASUALTIES (with or without loss of life)—*Major stranding*

1. November 19—*Nordmeer* grounded in Thunder Bay; caused by navigational error.

## II. MINOR CASUALTIES (without loss of life)

—Nil

## III. ACCIDENTS (other than shipping casualties)

—Nil

## IV. INCIDENTS (without any damage whatsoever)

—Nil

## B. EVENTS WHILE BERTHING, UNBERTHING, AT ANCHORAGE OR LOCK

## I. MAJOR CASUALTIES (with or without loss of life)

—Nil

## II. MINOR CASUALTIES (without loss of life)

(a) *Minor stranding*

—Nil

(b) *Minor damage to ship—Striking pier or installation*

1. April 14—*Silvaplana* struck wharf at Richardson's elevator in Port Arthur; caused by ice.
2. April 26—*Photinia* struck wharf at United Grain Growers' elevator in Port Arthur; caused when Master took over.
3. May 24—*Trefusis* struck over-hanging crane at Fort William; caused by wind.
4. September 23—*Delos Glory* struck pier in Duluth, Minn.; caused by light ship and high wind.
5. October 7—*Maxi Porr* struck wharf at Garvie's elevator in Calumet Harbor, Ill.; caused by tug error.

## III. ACCIDENTS (without damage to ship)

—Nil

## IV. INCIDENTS (without any damage whatsoever)

—Nil

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SOURCE: Ex. 1467 (Nov. 26, 1970 revision).