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JWEL Project No. NFS09308-0004

December 23, 2003

Mr. Roger Pottle
Senior Environmental Planner
Department of Works, Services and Transportation
5th Floor, Confederation Building West
P.O. Box 8700
St. John's, NL A1B 4J6

Dear Mr. Pottle:

Re: Waterfowl Component Study Addendum – Cartwright Junction to Happy Valley-Goose Bay Trans Labrador Highway

As per our discussion, following is the response to a letter sent to Mr. Ed Kaufhold, Department of Environment, from Glenn Troke of Environment Canada on December 4, 2003. The comment from this letter is provided below and our response to the comment follows.

Comment:

Our original comments regarding the waterfowl study included the need to provide justification for the aerial survey flight paths. This comment was addressed in Section 2.3 Comment 5. The proponent's response indicates that although transect-type surveys were not conducted, as was recommended by CWS, the methodology employed covered more area than the recommended transect surveys. It is unfortunate that waterfowl densities could not be calculated with the method used. Density estimates will be necessary to determine the impacts of the project on local waterfowl populations and to contribute to our understanding of cumulative impacts of this project on Labrador's waterfowl community. Estimates of density were necessary to properly address Comments 1 and 3. Waterfowl densities will also be necessary to compare the Preferred Route to the Outfitters Route. If, as stated in Response 3, the survey flight path is known and an area of approximately 250 m either side of the aircraft was surveyed, it should be possible to calculate waterfowl densities. The survey data for both the Preferred and Outfitter Routes needs to be revisited to generate density estimates.



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Response:

Table 1 indicates the area surveyed during each of 10 surveys conducted along the Preferred Route and the Alternative (Outfitter) Route, total birds observed and the number of birds per square kilometre of area covered. It should be noted that for both surveys, the survey lines, and hence the density estimates, include areas not considered waterfowl habitat such as forest, barrens and burns that were flown over enroute to areas of potential waterfowl habitat (wetlands, ponds, rivers).

Table 1 Total Area Surveyed and Density of Birds Along the Preferred Route and Alternative (Outfitter) Route – Cartwright Junction to Happy Valley-Goose Bay Trans Labrador Highway

Survey Dates	Total Area Surveyed (km ²) ¹	Total Birds Observed ²	Birds/km ²
Preferred Route			
9 May 2002	237.0	152	0.64
21 May 2002	274.5	706	2.57
1-2 June 2002	694.3	1250	1.80
18 July 2002	364.4	441	1.21
28-29 August 2002	418.4	502	1.19
Alternative (Outfitter) Route			
9 May 2003	194.9	42	0.21
23 May 2003	230.2	303	1.32
9-10 June 2003	232.9	457	1.96
16-17 July 2003	297.7	495	1.66
4-5 September 2003	209.3	613	2.93

¹ Assumes 0.5 km-wide survey area that includes all areas flown (wetlands, rivers, ponds, forest, barrens, burns).

² Includes waterfowl, gulls, terns, sandpipers and yellowlegs.

The higher densities of birds seen along the Preferred Route during the May surveys are reflective of the presence of open water on larger rivers such as the Churchill River and Kenamu River. In contrast, densities of birds were lower along the Alternative (Outfitter) Route during May surveys due to the absence of large waterbodies and rivers where early ice-out may occur and where birds congregate. In subsequent surveys (June, July, August/September), densities of birds along the Alternative (Outfitter) Route were higher than those observed along the Preferred Route.

Table 2 provides a comparison of waterfowl densities on selected wetlands along the Preferred and Alternative (Outfitter) routes. While a higher percentage of wetlands along the Preferred Route had at least one waterfowl present, the number of wetlands with a density of waterfowl ≥ 0.10 ha was highest on the Alternative (Outfitter) Route. The wetland with the highest density of birds was also identified on the Alternative (Outfitter) Route.



Table 2 Comparison of Waterfowl Density on Wetlands Along the Preferred Route and Alternative (Outfitter) Route – Cartwright Junction to Happy Valley-Goose Bay Trans Labrador Highway

	Preferred Route	Alternative (Outfitter) Route
Number of Wetlands Evaluated	138	162
Number of Wetlands with at Least One Waterfowl	79 (57%)	62 (38%)
Number of Wetlands with a Density ≥ 0.10 Birds/ha	9 (6.5%)	16 (9.9%)
Highest Density of Waterfowl (birds/ha)	0.6	1.2

Details of this evaluation along the Preferred Route are provided in the Waterfowl Component Study and for the Alternative (Outfitter) Route, in the Waterfowl Component Study Addendum.

If you have any questions or require further information, please contact me at 709-576-1458.

Yours truly,

JACQUES WHITFORD ENVIRONMENT LIMITED

Karen Roberts

for / Kathy Knox
Wildlife Biologist





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JWEL Project No. NFS09308-0004

January 12, 2004

Mr. Roger Pottle, Senior Environmental Planner
Department of Works, Services and Transportation
5th Floor, Confederation Building West
P.O. Box 8700
St. John's, NL A1B 4J6

Dear Mr. Pottle:

**Re: Waterfowl Component Study Addendum – Cartwright Junction to Happy Valley-Goose Bay Trans
Labrador Highway**

The attached information provides a response to comments received from Mr. Bruce Turner of Environment Canada on December 24, 2003. The comments addressed in the attached information are:

- A map that illustrates the biophysical districts (not ecoregions), proposed highway routes and the waterfowl survey routes. The biophysical districts as provided by Loupoukhine are to my knowledge the best that are available at this time.
- An analysis of waterfowl breeding population, staging and moulting densities in each of these districts. The current analysis offers no such insights.
- An estimate of areal extent of the highway footprint and, based on observed densities, the estimate of impact on populations for both routes. For reference purposes Bateman (1995), Goudie and Whitman (1985) and Erskine (1987) will be useful to assess relative impacts at a local, regional and flyway level.
- Based on the above results, provide a textual discussion and assessment of the findings, focusing on each of the habitat requirements of waterfowl for each of the above-noted life history stages and the relative impacts on populations.

If you have any questions or require further information, please contact me at 709-576-1458.

Yours truly,

JACQUES WHITFORD ENVIRONMENT LIMITED

Karen Roberts
Kathy Knox
Wildlife Biologist

Attachment

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ATTACHMENT 1

Response to B - Turner Comments Dated December 24, 2003

The following information is provided in response to comments, on the Waterfowl Component Study Addendum prepared in conjunction with the Cartwright Junction to Happy Valley-Goose Bay Trans Labrador Highway (TLH) environmental assessment, that were provided by Environment Canada to the Department of Works, Services and Transportation (WST) on December 24, 2003. Each section includes the comment, followed by the response.

1.0 Comment 1 – Illustration of Biophysical Districts

Comment 1: A map that illustrates the biophysical districts (not ecoregions), proposed highway routes and the waterfowl survey routes. The biophysical districts as provided by Loupoukhine are to my knowledge the best that are available at this time.

The biophysical ecodistricts as illustrated by Lands Directorate (1977) are shown in Figure 1. This mapping information was provided by Canadian Wildlife Services. The 10 waterfowl survey routes (i.e., five surveys for each of the preferred and outfitter routes) are illustrated on Figures 2 to 11, along with the ecodistricts.

Taking into consideration the percentage of water and the relative amount of different vegetation types, many of the biophysical districts that interact with the proposed highway routes (preferred and outfitter) would be considered to have low to medium potential for waterfowl (Table 1). For example, those districts with less than 10 percent water and dense vegetation comprised of predominantly trees would be considered to have low potential (i.e., those in the T ecoregion). Those that may be considered to have medium potential would be those with 11 to 20 percent open water and having moss, lichen or shrubs as predominant vegetation types (i.e., O4, O5, S4, V3 and V8). District V6 would represent the area with the greatest potential waterfowl habitat. This district has level topography, 20 to 30 percent open water, and dense vegetation with a relatively high component of moss and shrubs (Table 1).

Approximately 34 km of the preferred route and 42 km of the outfitter route pass through V6. An additional 20 km on the eastern end of the highway route passes through V6; however, this section is common to both routes. Along both routes, the next most travelled biophysical districts are V5 (43 km of the preferred route crosses the ecodistrict) and V2 (81 km of the outfitter route crosses the ecodistrict). Both of these ecodistricts would be considered to have lower value as waterfowl habitat as both have less than 10 percent open water and the predominant vegetation is trees (Table 1).



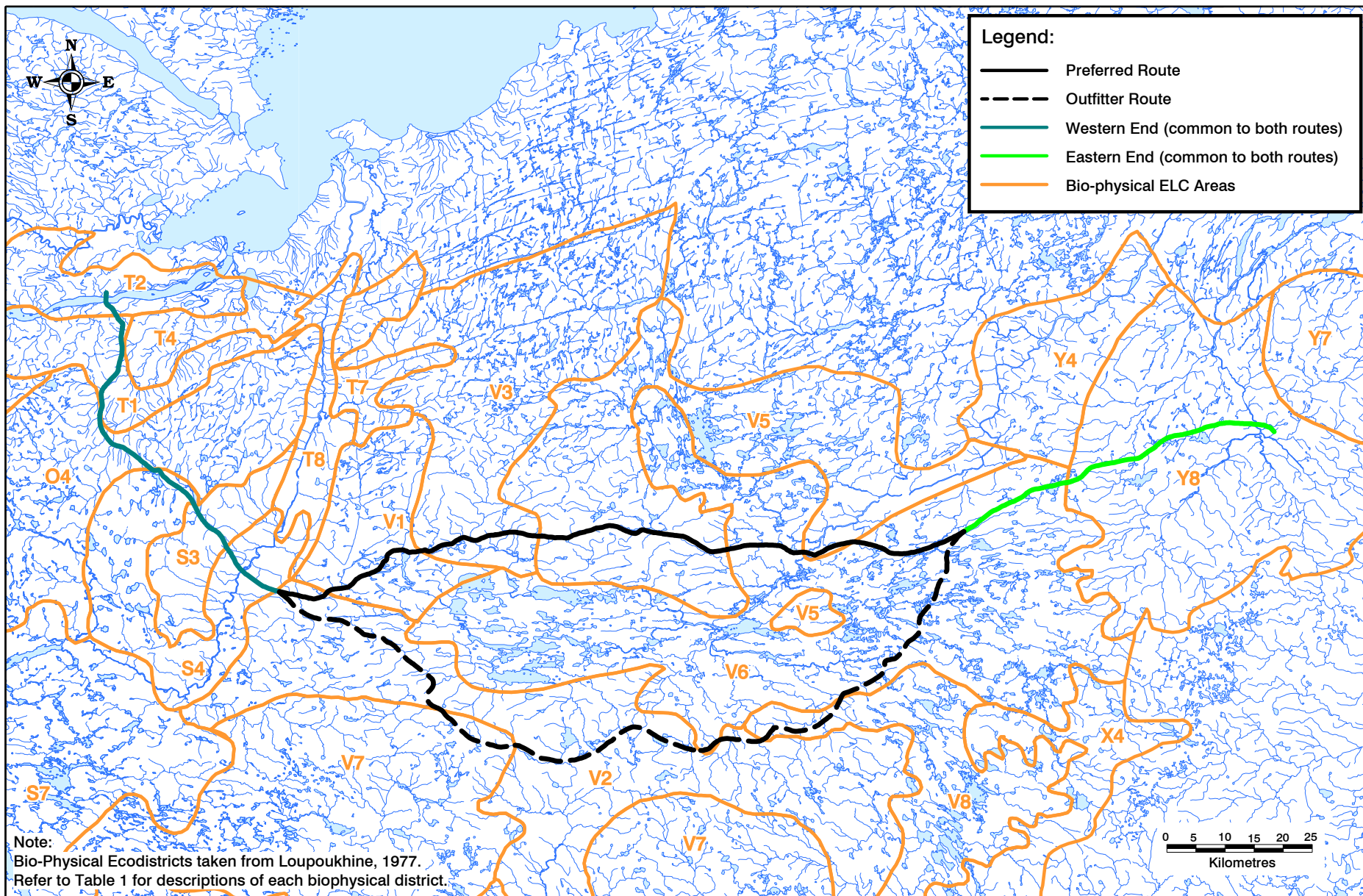


Figure 1

ECODISTRICTS ALONG THE PREFERRED AND OUTFITTER ROUTES FOR THE
CARTWRIGHT JUNCTION TO HAPPY VALLEY - GOOSE BAY TRANS LABRADOR HIGHWAY



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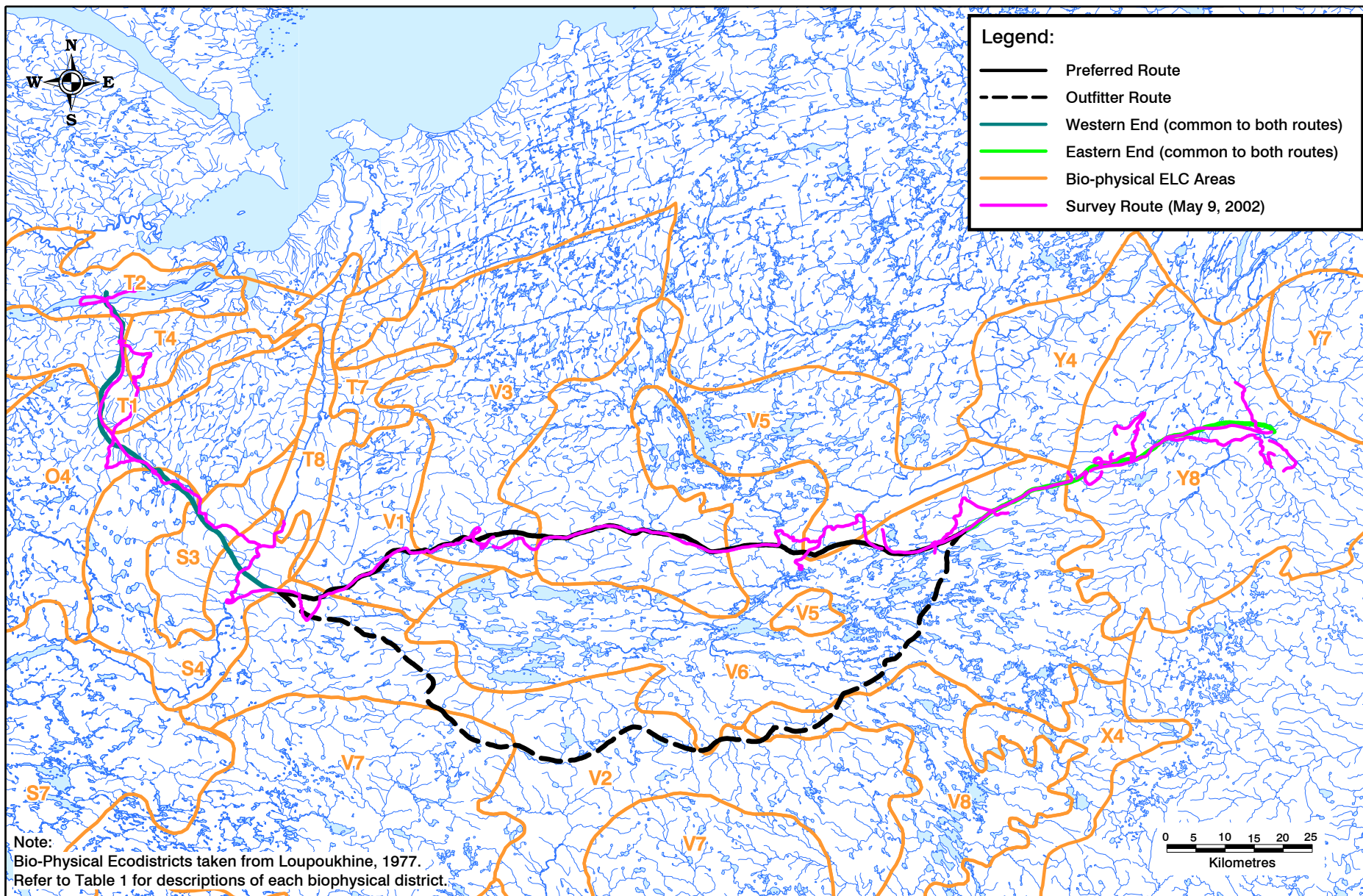


Figure 2

ECODISTRICTS AND AERIAL SURVEY ROUTE, MAY 9, 2002



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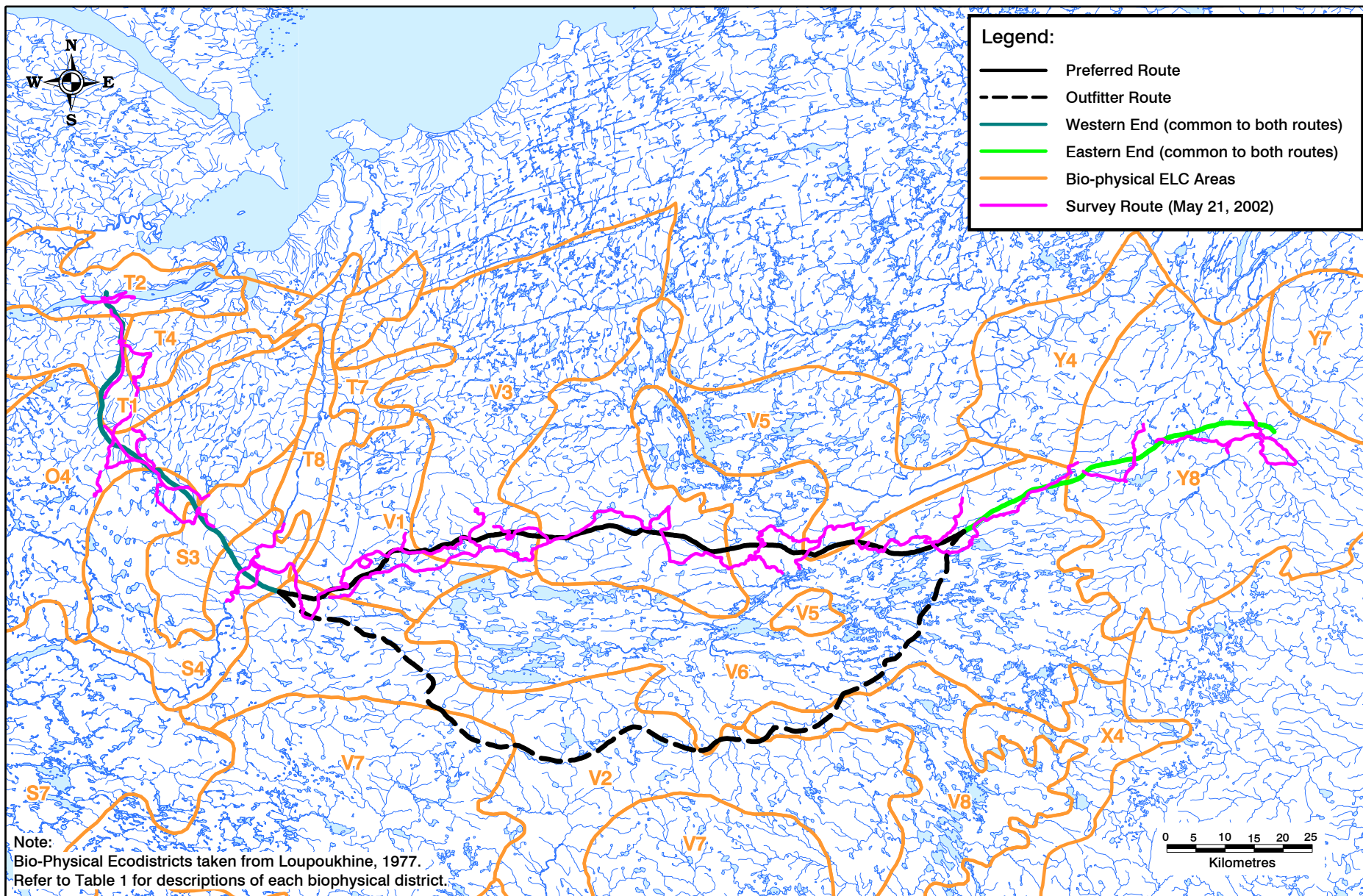


Figure 3

ECODISTRICTS AND AERIAL SURVEY ROUTE, MAY 21, 2002



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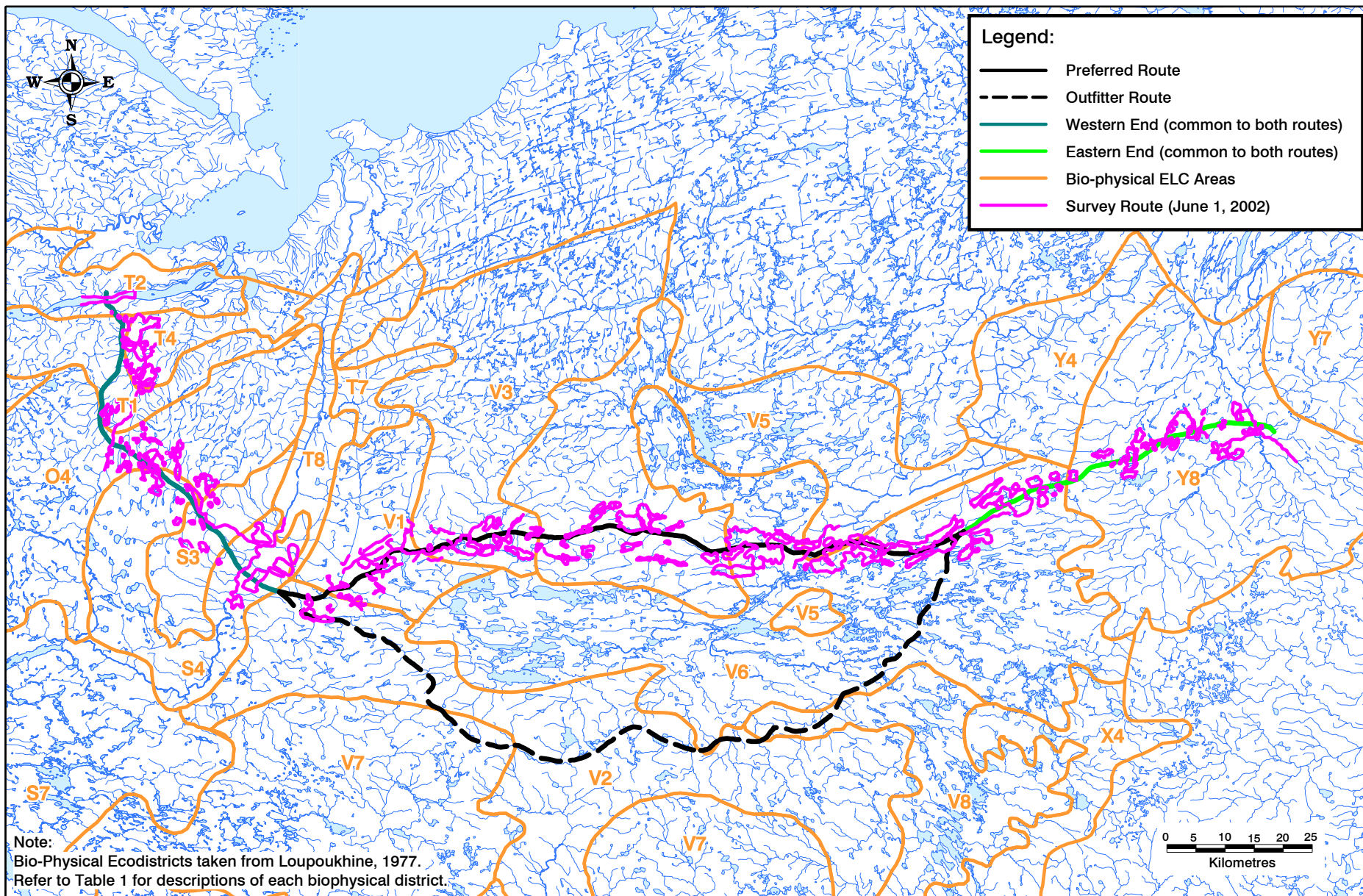


Figure 4

ECODISTRICTS AND AERIAL SURVEY ROUTE, JUNE 1, 2002



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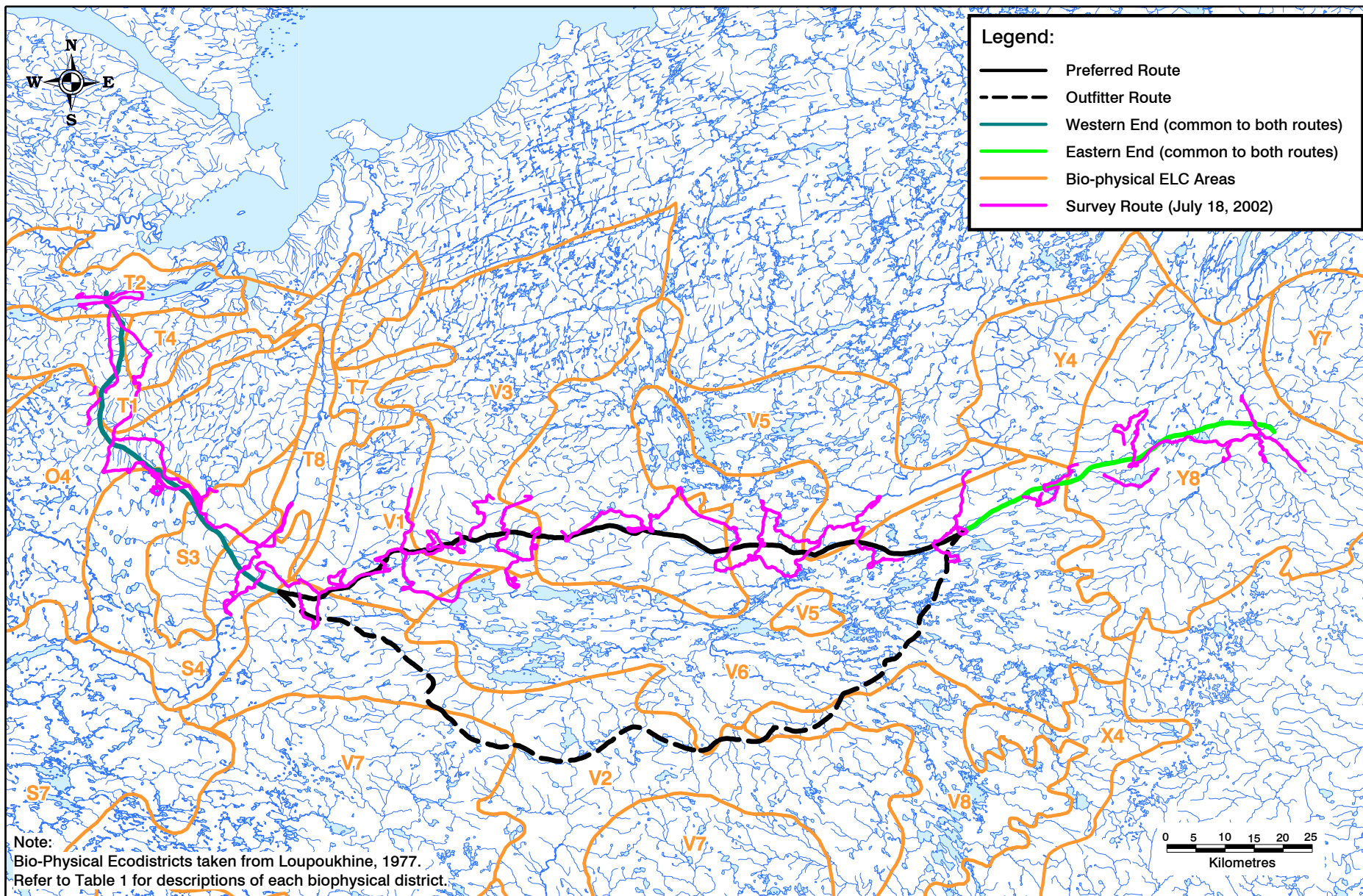


Figure 5

ECODISTRICTS AND AERIAL SURVEY ROUTE, JULY 18, 2002



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