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SPRING STUDIES OF BISON ALONG
THE NORTHWEST ALASKAN PIPELINE ROUTE

Final Report

Prepared for and Funded by

Northwest Alaskan Pipeline Company

under

Contract No. 478085-9-017

Prepared by

LGL Alaska Research Associates, Inc.

Steve G. Fancy

1981

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The Delta bison (*Bison bison*) herd, estimated at 275 animals in March 1980 (LGL unpublished data), traditionally migrates between (1) calving and summering areas along the Delta River, and (2) several wintering areas. The locations of the calving, summering, and wintering areas have been previously documented (Rausch and Nava 1961, Griffin 1968, McIlroy 1972, ADF&G 1974, Larson 1974, Alaska Division of Lands 1976, Hemming and Morehouse 1976, Fedeler 1977, Burbank and Sigman 1979), but the locations and timing of movements between these areas are not well known.

LGL Alaska Research Associates, Inc., initiated a study of this bison herd during spring 1980. The specific objectives of this study were to:

1. Locate and obtain information on the spring movements of the various herd groups.
2. Identify specific pipeline corridor crossing sites during late winter and spring and determine the timing of these crossings.

Information on the spring movements of the herd were obtained by ground and aerial surveys conducted between March and July. Ground surveys using snowmobiles were made along the Alyeska and Haines Products pipeline right-of-ways paralleling the proposed NWA pipeline corridor. Aerial surveys of the entire range of the bison herd as determined by previous researchers were conducted approximately every two weeks with fixed-wing aircraft.

Results and Discussion

During the course of this study, herd groups which were located on four separate wintering areas in early spring migrated to summer ranges

along the Delta River. In past years, the majority of the herd has moved from the summering area to the agricultural fields north of the Alaska highway by late fall (Rausch and Nava 1961, McIlroy 1972). In mid to late winter bison groups move to three other wintering areas, while some animals remain on the agricultural fields in the Clearwater area. The movements of bison groups to each of these four wintering areas will be discussed separately.

Rainbow Lake Wintering Area

On 18 March, a group of 5 bison were seen on a lake approximately halfway between Delta Junction and Rainbow Lake (Figure 1). Bison tracks were seen around other lakes in the Rainbow Lake area, and although no other bison were seen in this area, more bison may have been present. No bison were seen in this area on the 17 April aerial survey, while increased numbers of bison were seen on the summering area. I therefore believe that the bison in the Rainbow Lake area moved to the summering area between 18 March and 17 April. The route of this movement from the Rainbow Lake area to the summering area lies on the west side of the Delta River and does not contact the proposed NWA pipeline corridor.

In past years, bison have moved from the agricultural fields in the Clearwater area to the Rainbow Lake area around 1 March, and remained there until they migrated to the summering area around 1 May. The migration route from the Clearwater area to the Rainbow Lake area crosses the proposed pipeline corridor; however, since this study did not begin until mid-March, I could not determine when and where this group crossed the corridor.

Texas Range Wintering Area

On the 19 March aerial survey 105 bison were seen south of Delta Junction, north of Donnelly Dome on the east side of the Delta River

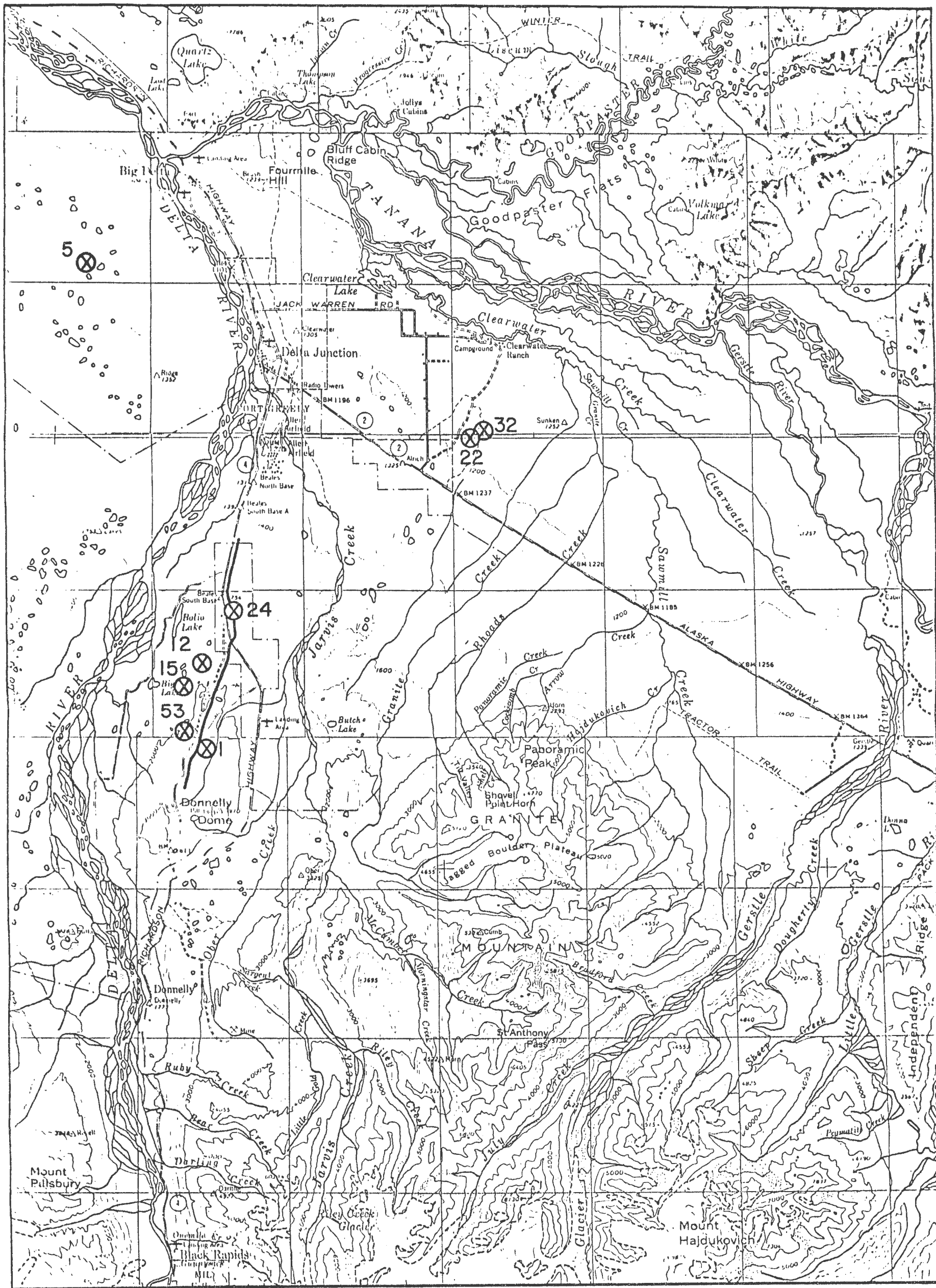


FIGURE 1. Location of group sightings during aerial survey March 18-19, 1980. Number of bison seen in each group indicated next to each symbol. Alyeska right-of-way south of Pump Station 9 where many tracks were seen is indicated.

(Figure 1). Twenty-four of these were on the Alyeska right-of-way south of Pump Station 9. Many tracks were observed on the Alyeska corridor from Pump Station 9 to just northwest of Donnelly Dome but not in adjacent areas. The lack of other tracks in the snow leading to this area indicated that the Alyeska corridor was used as a major movement route. By the 17 April survey, the bison seen in this area on 19 March had moved southwest along the Delta River. Approximately 40 animals were observed on Fort Greely's "Texas Range" north of Donnelly Dome, while approximately 220 bison were seen on a sandbar in the Delta River.

Clearwater Wintering Area

Bison were first located in the Clearwater area on the 8-9 March ground survey, and some animals remained on the agricultural fields until 1 May. A group of 25-27 animals was located 9 March about one mile north of the NWA corridor (Figure 2). These animals spent the previous night on a private airstrip along Remington Road, 1 mile north of the Alaska Highway (Figure 2). On the 18 March flight, 54 bison in 2 groups were sighted in agricultural fields north of the NWA corridor (Figure 1). Between 19-31 March, all but about 8 of these bison migrated to the summering area on the Delta River. The trail used by the bison was followed for approximately 7 miles (Figure 3). The trail came onto the proposed pipeline route 3.25 miles east of Remington Road, then followed the Haines gas pipeline corridor for 0.7 miles before crossing onto the south side of the Alaska Highway. The bison moved west onto Fort Greely, paralleling the Alaska Highway about 1 mile south of the highway. The remaining 8 bison crossed the Alaska Highway at approximately the same location on 1 May (Larson 1980, pers. comm.).

Healy Lake Wintering Area

The Healy Lake bison group uses the proposed NWA pipeline route as a migration route between the summering area and their wintering grounds

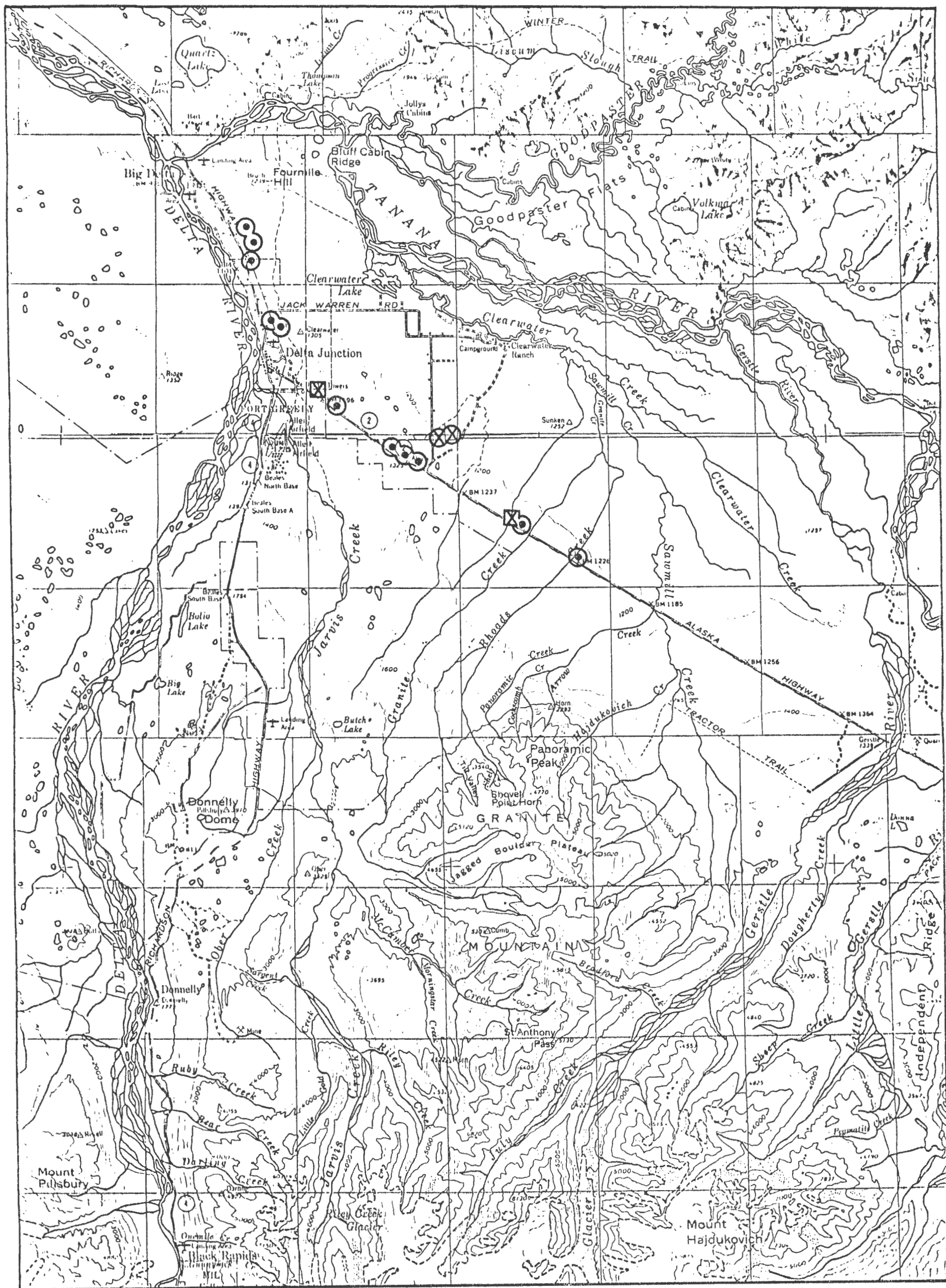


FIGURE 2. Ground survey along Alyeska and Haines gas pipeline right-of-ways, March 8-9, 1980.

KEY

⊙

old sign

⊠

fresh (spring 1980) sign

⊗

group sighting

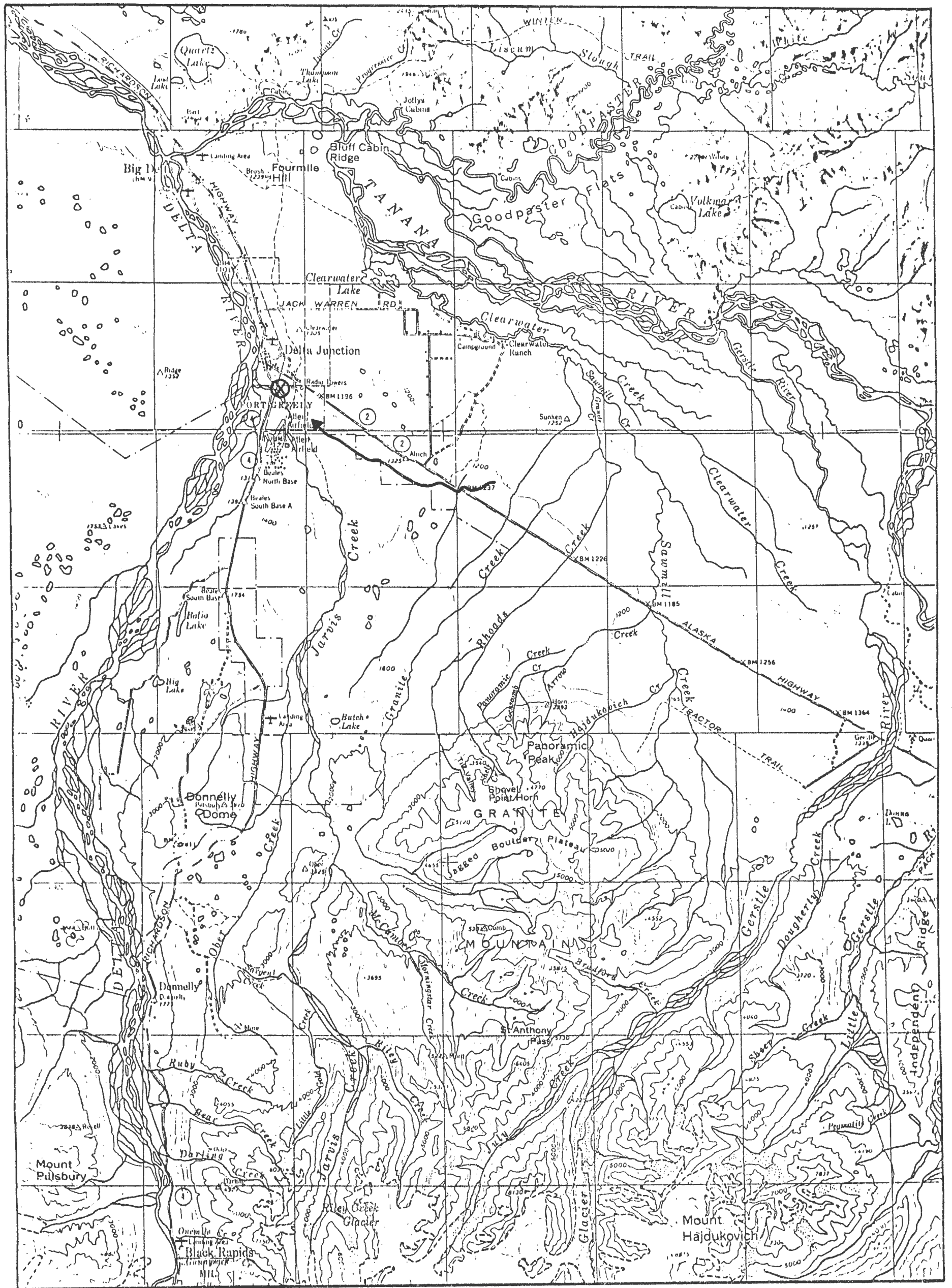


FIGURE 3. Route of bison migration between agricultural fields and Fort Greely area. Location of 2-3 week old bison sign found on March 31, 1980 is indicated by X.

near Healy Lake. This group once numbered approximately 60 animals (Griffin 1968) and calved along the Gerstle River (Rausch 1962, Griffin 1968, ADF&G 1974). However, no bison have calved there in recent years (Larson 1980, pers. comm., LGL unpublished data). On 25 April LGL biologist David Roseneau sighted 2 bison on the Gerstle River approximately 1 mile north of the Alaska Highway (Figure 4). On another aerial survey on 29 April, he sighted 2 bison along the proposed NWA pipeline corridor near Granite Creek (Figure 4). These two sightings were probably of the same 2 animals moving towards the summering area. Dean Cummings, the owner of a sawmill on the Gerstle River, reported seeing 6 bison along the Gerstle River north of the Alaska Highway in November and December, but had seen only 2 bison during late spring. He had not seen any calves in that area for at least 5 years.

By 17 April the majority of the Delta bison herd had moved to the summering area (Figure 5). The first calves were born around 20 April, and all newborn calves were seen within the cross-hatched area in Figure 5. Table 1 lists the number of bison counted on the summering area during aerial surveys between 17 April and 17 June. Data from the 18-19 March surveys are not presented because some areas of the known bison range were not covered.

The results of this study indicate that bison can be expected to contact the proposed NWA pipeline corridor between Delta Junction and the Gerstle River during the spring months. After 1 May, the majority of the bison herd is on the summering area and little or no contact with the NWA corridor should occur during the summer months. Bison sign (tracks and feces) were found along the Alyeska and Haines gas pipeline right-of-ways (Figures 2 and 3) and along power line right-of-ways and other cleared trails. Bison can thus be expected to use the cleared NWA corridor as a movement and feeding area. Scheduling construction activities between 1 May and 1 September for the area between Big Delta and the Gerstle River will avoid any direct adverse impacts to the bison herd.

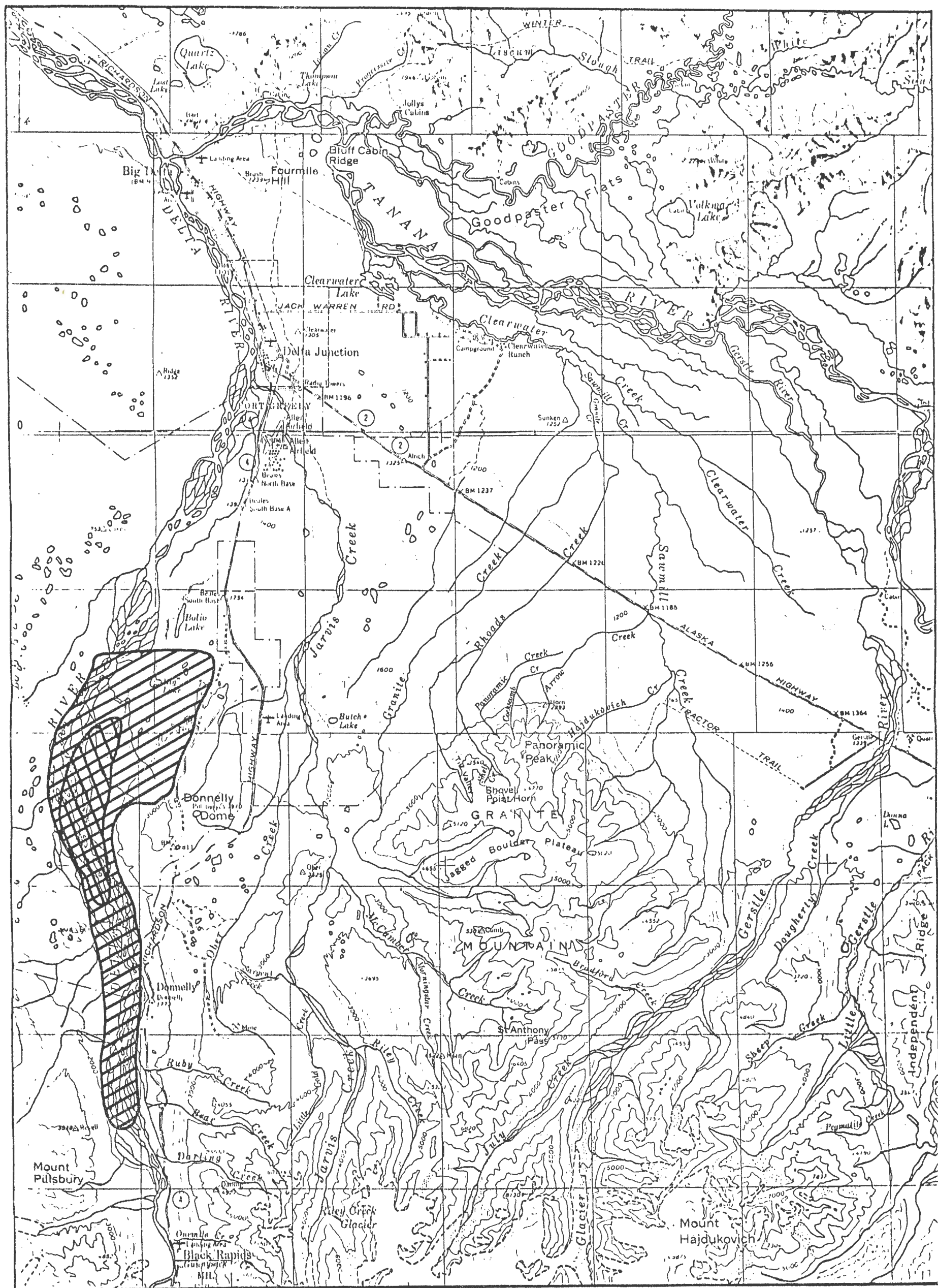


FIGURE 5. Outline of summering area as determined by aerial surveys on April 17 and 25, May 13, 14 and 29, and June 17. All bison observations were within this area. Area where new born calves were seen is indicated by cross-hatching.

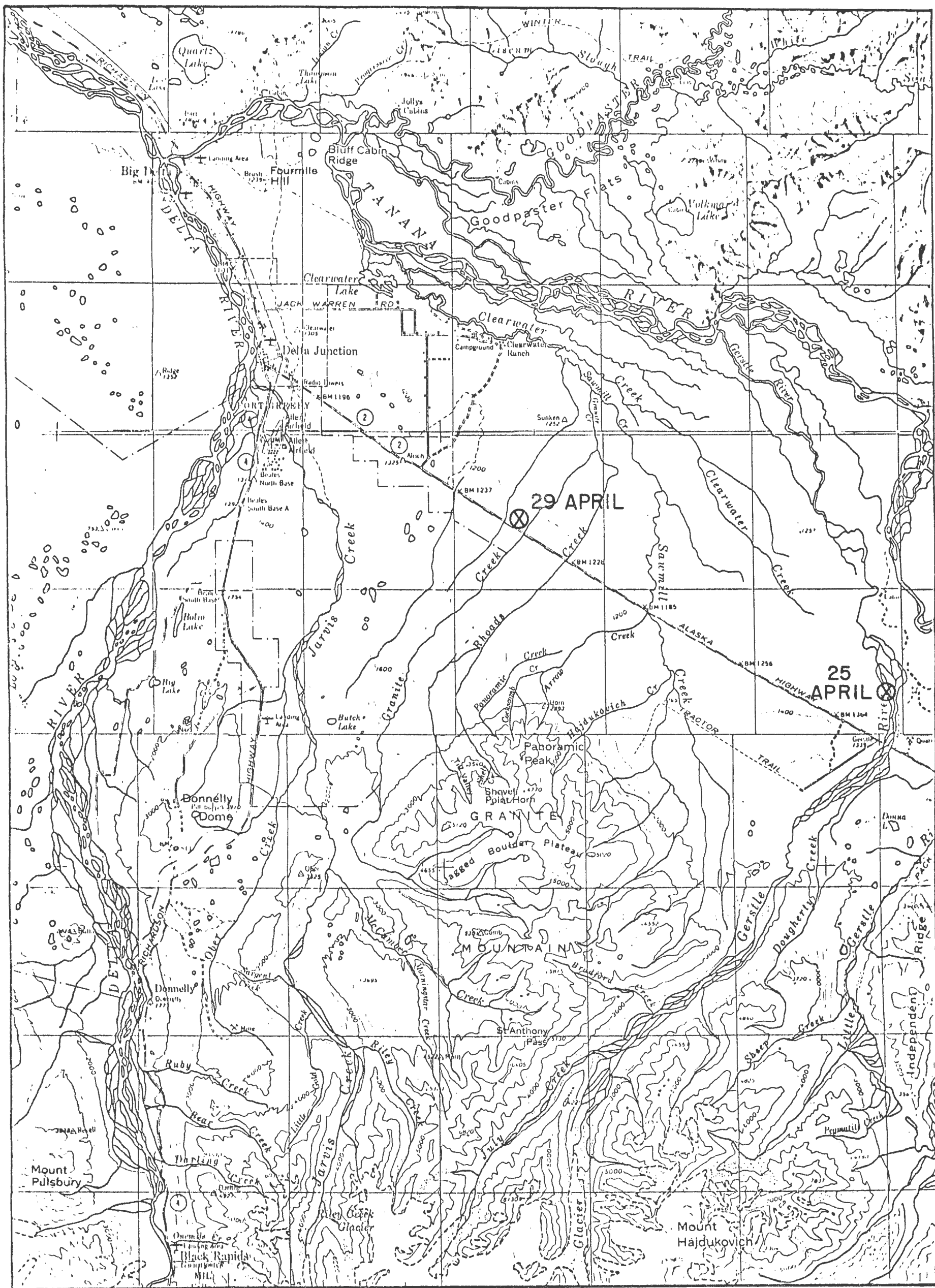


FIGURE 4. Location of Healy Lake bison group sightings, April 25 and 29, 1980.

Table 1 Number of bison counted during aerial surveys between 17 April and 17 June, 1980.

<u>Date</u>	<u>Total Bison</u>	<u>Adults</u>	<u>Calves</u>	<u>Remarks</u>
17 April	260	260	0	
25 April	267	262	5	10 bison known to be north of Alaska Highway but not located.
13-14 May	286	272	14	High winds during survey.
29 May	290	270	20	High winds during survey.
17 June	>230	>200	30	Very high winds, poor count. Some groups not counted.

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