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Writers Project Research Notes.

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DEPARTMENT OF
DRAINAGE AND WATERS
STATE OF MINNESOTA
E. V. Willard, Commissioner

DRAINAGE AREAS OF MINNESOTA STREAMS
AND METHOD OF ESTIMATION PROBABLE
FLOOD FLOWS

OCTOBER, 1922.

TABLE I
AREAS IN SQUARE MILES OF THE PRINCIPAL
DRAINAGE BASINS IN MINNESOTA
AND ADJACENT TRIBUTARY
TERRITORY.

RESUME.

MAJOR BASINS

	Area, Square Miles
1. MISSISSIPPI RIVER DRAINAGE BASIN:	
Area above the outlet of the Minnesota River.	19,863
Area below the outlet of the Minnesota River, exclusive of the Minnesota, Missouri, Des Moines and Red Cedar River basins.	9,447
Minnesota River:	
Tributary area within Minnesota.	14,262
Tributary area within South Dakota	1,620
Tributary area within Iowa	655
Area within Minnesota draining through the Des Moines and Red Cedar Rivers.	2,663
Area within Minnesota draining through the Missouri River	1,799
2. HUDSON BAY DRAINAGE BASIN:	
Rainy River, area within Minnesota.	10,454
Red River of the North:	
Tributary area within Minnesota (including the Roseau River).	17,388
Tributary area within North and South Dakota	17,388
Tributary area within Canada, draining into Roseau River at points within Minnesota	2,042
3. LAKE SUPERIOR DRAINAGE BASIN:	
Pigeon River:	
Tributary area within Minnesota.	227
Tributary area within Canada	401
Areas within Minnesota directly tributary to Lake Superior	5,658
Total Areas of the Major Basins located within Minnesota. . . .	81,986

**MISSISSIPPI RIVER DRAINAGE BASIN:
SUMMARY**

	Area, Square Miles
Total Mississippi River drainage area including 1,620 square miles within South Dakota, and 655 square miles in Iowa, but exclusive of area within Wisconsin.	50,334
Total area of the Mississippi River drainage basin within Minnesota	48,059

**MISSISSIPPI RIVER.
Names of the Tributary Areas**

Grant Creek.		125
Yellow Head River.		177
Turtle River.		240
Third River.		137
Pigeon River.		105
Area bordering on the Mississippi River above the Leech Lake River outlet.		750
Total area above the Leech Lake River outlet . . .		1,534
Leech Lake River		1,246
Steamboat River	116	
Kabecona River.	123	
Shingobi Creek.	26	
Boy River	429	
Laura Brook.	31	
Swift River.	30	
Bear River.		27
Area bordering on the Leech Lake River above the Leech Lake outlet.		464
Ball Club River.		49
Deer River		128
Vermillion River		37
Prarie River.		446
Area bordering on the Mississippi River between the Leech Lake River outlet and the Swan River outlet		327
Total area above the outlet of the Swan River. . .		4,231
Swan River		330
Sandy River.		423
Savannah River		48
Prairie River above Sandy Lake.		256
Tamarack River	119	
Area bordering on the Mississippi River between the Swan River outlet and the Willow River outlet		112
Total area above the Willow River outlet		5,096
Willow River		483
Hill River.		86
Morrison Brook	37	
Moose River		89
White Elk Brook		44

	Area, Square Miles	
Rice River.		356
Dam Brook.	52	
Sisabagama Creek.		45
Mud River.		106
Little Willow River		87
Dean Brook		23
Area bordering on the Mississippi River between the Willow River outlet and the Pine River outlet . .		135
Total area above the Pine River outlet.		6,331
Pine River.		802
Ada Brook.	71	
Daggett Brook.	141	
Washburn.	38	
Little Pine River.	140	
Rabbit River.		39
Sand Creek.		23
Area bordering on the Mississippi River between the Pine River outlet, and the Crow Wing River out- let		121
Total area above the Crow Wing River outlet		7,316
Crow Wing River		3,668
Shell River.	548	
Straight River.	269	
Fish Hook River.	191	
Blueberry River	44	
Swamp River.		67
Cat River.		50
Little Swamp Creek		9
Beaver Creek		13
Farnham Creek.		53
Leaf River		795
Bluff Creek	78	
Oak Ridge Creek	31	
Wing River.	184	
Red Eye River	196	
Partridge River.		91
Swan Creek		43
Mosquito Creek		51
Long Prairie River		817
Calomas Creek	40	
Belle River	56	
Eagle Creek	80	
Turtle Creek.	10	
Moran Brook	60	
Fish Trap River	61	
Seven Mile Creek		27
Pillager Creek.		12
Gull River		291
Stony Brook.	43	
Home Brook.	57	
Nokasippi River		228
Daggett Brook.	56	

	Area, Square Miles	
Fletcher Boundary Creek.		44
Little Elk River		135
Pike Creek		32
Swan River		115
Two Rivers		153
South Two Rivers.	105	
North Two Rivers	46	
Spunk River.		56
Area bordering on the Mississippi River between the Crow Wing River outlet and the Platte River outlet.		151
Total area above the Platte River outlet		11,898
Platte River		313
Skunk River	186	
Little Rock River.		102
Watab River		85
Area bordering on the Mississippi River between Platte River outlet and the Sauk River outlet.		62
Total area above the Sauk River.		12,460
Sauk River		860
Adley Creek	88	
Ashley Creek.	116	
Plum Creek		46
St. Augusta Creek.		8
Clearwater River		181
Silver Creek		52
Elk River.		607
Meyhew Creek.	60	
Rice Creek.	53	
Snake River	18	
St. Francis River	220	
Battle Brook.	12	
Tibbitts Brook.	45	
Area bordering on the Mississippi River between the Snake River outlet and the Crow River outlet		212
Total area above the Crow River outlet		14,426
Crow River		2,838
Crow River (north branch).	1,217	
Skunk River.	26	
Crow River (middle branch)	310	
Jewett Creek	38	
Sucker Creek	35	
Twelve Mile Creek.	65	
Crow River (south branch)	1,554	
Buffalo Creek.	670	
Pioneer Creek	54	
Rum River.		1,575
Borden Brook.	18	
Bradbury Brook.	20	
Stoney Brook.	8	
Whitney Brook	8	
Tibbitts Brook.	40	
Mike Dreur Brook.	12	
O'Neill Brook	12	
Randell Brook	17	

	Area, Square Miles	
Bogus Brook.	25	
Rum River (west branch).	175	
Estes Brook	103	
Green Lake Brook	28	
Stanchfield Creek.	25	
Seely Brook.	60	
Cedar Creek.	96	
Trott Brook.	53	
Elm Creek		86
Rush Creek	32	
Ooon Creek.		113
Rice Creek.		150
Shingle Creek		335
Bassett Creek		46
Minnehaha Creek		206
Area bordering on the Mississippi River between the Crow River outlet and the Minnesota River outlet.		113
Total area above the Minnesota River outlet		19,888
Minnesota River		16,537
(For details of tributary areas of the Minnesota River, see page)		
Area bordering on the Mississippi River between the Minnesota River outlet and the St. Croix River. . outlet.		272
Total area above the St. Croix River.		36,697
St. Croix River		3,254
(For details of tributary areas to St. Croix River in Minnesota, see page)		
Vermillion River.		261
Area bordering on the Mississippi River between the St. Croix River outlet, and the Cannon River out- let		30
Total area above the Cannon River		40,292
Cannon River.		1,440
Little Cannon River.	16	
Devil Creek.	21	
Mackenzie Creek.	13	
Straight River	465	
Crane Creek	107	
Wolf Creek	49	
Heath Creek.	34	
Frairie Creek.	103	
Little Cannon River.	98	
Chub Creek	20	
Trout Brook.	22	
Belle Creek.	92	
Wells Creek		77
Area bordering on the Mississippi River between the Cannon River outlet and the Zumbro River outlet .		168
Total area above the Zumbro River outlet		41,977
Zumbro River		1,377
Zumbro River (south branch)	810	
Zumbro River (middle branch).	399	
Zumbro River (north branch)	240	

	Area, Square Miles	
Whitewater River.		320
Rollingstone Creek.		128
Rollingstone Creek (south branch)	55	
Rollingstone Creek (west branch).	55	
Pine Creek.		64
Area bordering on the Mississippi River between the Zumbro River outlet and the Root River outlet . .		149
Total area above the Root River outlet.		44,015
Root River.		1,662
Mill Creek	37	
Root River (middle branch)	218	
Deer Creek.	60	
Trout Creek.	53	
Root River (south branch).	291	
Rush Creek	108	
Money Creek.	219	
Root River (south Fork).	290	
Riceford Creek.	69	
Silver Creek	26	
Crystal Creek.	12	
Thompson Creek	50	
Winnabago Creek.		90
Area bordering on the Mississippi River between the Root River outlet and the Minnesota-Iowa State Boundary		105
Total area above the Minnesota-Iowa State Boundary draining directly into the Mississippi River. . .		45,672
Areas in Minnesota draining into the Mississippi River at points outside of Minnesota (see details of tributary areas)		4,462

MISSISSIPPI RIVER DRAINAGE BASIN.

MINNESOTA RIVER.

Summary

	Area, Square Miles
Total Minnesota River drainage area	16,537
Tributary area within Minnesota	14,262
Tributary area within South Dakota.	1,620
Tributary area with Iowa.	655

NAMES OF THE TRIBUTARY AREAS

Area within Minnesota bordering on Big Stone Lake and the Minnesota River above the outlet of the Yellow Bank River	252
Area within South Dakota bordering on Big Stone Lake and tributary to the Minnesota River above the outlet of the Yellow Bank River	920
Stony Run	108
Yellow Bank River:	
Tributary area within Minnesota.	144
Tributary area within South Dakota	415
Total tributary area	559
Area bordering on the Minnesota River between the Yellow Bank River outlet and the Pomme de Terre River outlet	109
Total area above the Pomme de Terre River outlet.	1,948
Pomme de Terre River.	961
Mud Creek.	148
Area bordering on the Minnesota River between the Pomme de Terre River outlet and the Lac qui Parle River outlet.	118
Total area above the Lac qui Parle River outlet	3,027
Lac qui Parle River:	
Tributary area within Minnesota.	768
Tributary area within South Dakota	285
Total tributary area	1,053
Lac qui Parle River (east branch).	108
Canby Creek	93
Florida Creek.	82
Area bordering on the Minnesota River between the Lac qui Parle River outlet and the Chippewa River outlet	110
Total area above the Chippewa River	4,190
Chippewa River.	1,893
Shakopee Creek	346
Chippewa River (east branch)	423
Little Chippewa River.	230
Stony Run	176
Hawk Creek.	531
Ojibwa Creek	152
Area bordering on the Minnesota River between the Chippewa River outlet and the Yellow Medicine River outlet	70

	Area, Square Miles	
Total area above the Yellow Medicine River outlet .		6,860
Yellow Medicine River		550
Area bordering on the Minnesota River between the Yellow Medicine River outlet and the Redwood River outlet.		181
Total area above the Redwood River.		7,591
Redwood River		702
Three Mile Creek	78	
Beaver Creek.		249
Area bordering on the Minnesota River between the Redwood River outlet and the Cottonwood River outlet		561
Total area above the Cotton wood River.		9,103
Cottonwood River.		1,200
Sleepy Eye Creek	282	
Highwater Creek.	102	
Dutch Charlie's Creek.	78	
Flum Creek	77	
Area bordering on the Minnesota River between the Cottonwood River outlet and the Little Cottonwood River outlet		11
Total area above the Little Cottonwood River outlet		10,314
Little Cottonwood River		255
Nicollet Creek.		175
Minneopa Creek.		62
Area bordering on the Minnesota River between the Little Cottonwood River outlet and the Blue Earth River outlet.		65
Total area above the Blue Earth River outlet. . . .		10,871
Blue Earth River:		
Tributary area within Minnesota.		3,193
Tributary area within Iowa		655
Le Sueur River	938	
Maple River	272	
Cobb River.	214	
Little Cobb River.	80	
Boot Creek.	54	
Watonwan River	780	
Perch Creek	107	
Watonwan River (south branch)	220	
Chain River, Elm Creek	283	
Center Creek	113	
Lily Creek.	31	
South Creek.	84	
Blue Earth River (east branch)	310	
Jones Creek	130	
Shanaska Creek.		51
Cherry Creek.		57
Le Sueur Creek.		128
Little Le Sueur Creek.	46	
Rush River.		300
High Island Creek		183
Bevens Creek.		120
Carver Creek.		72
Sand Creek.		267

	Area, Square Miles
Raven Stream	46
Porter Creek	84
Credit River.	90
Nine Mile Creek	40
Area bordering on the Minnesota River between the Blue Earth River outlet and the Mississippi River	520

MISSISSIPPI RIVER DRAINAGE BASIN.

ST. CROIX RIVER

Summary

Total St. Croix River drainage area	7,290
Tributary area within Minnesota	3,254

NAMES OF TRIBUTARY AREAS WITHIN MINNESOTA

Spruce River.	13
Area bordering on the St. Croix River between the Spruce River outlet and the Tamarack River outlet	8
Total area above the Tamarack River outlet.	21
Tamarack River.	166
Area bordering on the St. Croix River between the Tamarack River outlet and the Crooked Creek out- let	5
Total area above the Crooked Creek outlet	192
Crooked Creek	78
Area bordering on the St. Croix River between the Crooked Creek outlet and the Sand River outlet. .	9
Total area above the Sand River outlet.	279
Sand River.	139
Area bordering on the St. Croix River between the Sand River outlet and the Bear Creek outlet . . .	1
Total area above the Bear Creek outlet.	419
Bear Creek.	44
Area bordering on the St. Croix River between Bear Creek outlet and the Kettle River outlet.	2
Total area above the Kettle River outlet.	465
Kettle River.	1,030
Grindstone River	102
Pine River	103
Little Pine River	24
Willow River	116
Moose River	161
Partridge River	14
Split Rock River	86
Otter Brook.	18
Dead Moose River	24
Moose Horn River	43
Area bordering on the St. Croix River between the Kettle River outlet and the Snake River outlet. .	14
Total area above the Snake River outlet	1,509
Snake River	936
Mission Creek.	15

	Area, Square Miles
Pokegema Creek	88
Mud Creek.	70
Rice Creek	23
Groundhouse River.	138
Ann River.	70
Knife River.	89
Cowan Brook.	10
Chester Brook (Little Snake River)	16
Area bordering on the St. Croix River between the Snake River outlet and Goose Creek outlet	135
Total area above Goose Creek outlet	2,580
Goose Creek	67
Area bordering on the St. Croix River between the Goose Creek River outlet and the Sunrise River outlet.	8
Total area above the Sunrise River outlet	2,655
Sunrise River	307
Area bordering on the St. Croix River between the Sunrise River outlet and Brown Creek outlet . .	170
Brown Creek	16
Area bordering on the St. Croix River between the Brown Creek outlet and Bolles Creek outlet. . .	44
Total area above Bolles Creek outlet.	3,192
Bolles Creek.	18
Area within Minnesota bordering on the St. Croix River between the Bolles Creek outlet and the mouth of the St. Croix River.	44
TOTAL DRAINAGE AREA OF THE ST. CROIX RIVER WITHIN MINNESOTA	3,254
*Note-No attempt has been made to determine extent of tributary areas located within the State of Wisconsin.	

MISSISSIPPI RIVER DRAINAGE BASIN.

AREAS WITHIN MINNESOTA DRAINING INTO THE MISSISSIPPI RIVER AT POINTS OUTSIDE OF MINNESOTA.

Summary

Total area within Minnesota draining into the Mississippi River outside of Minnesota.	4,462
Missouri River Drainage Basin	1,799
Areas along the Iowa boundary draining through Iowa directly into the Mississippi River	2,663

NAMES OF TRIBUTARIES AND THEIR AREAS WITHIN MINNESOTA DRAINING DIRECTLY INTO THE MISSISSIPPI RIVER WITH OUTLETS IN IOWA

Iowa River (upper reaches).	193
Little Cedar River.	71
Cedar River	957

	Area, Square Miles
Shell-rock River	322
Woodbury Brook	55
Ross Creek	93
Turtle Creek	184
Des Moines River.	1,443
Des Moines River (east branch)	126
Harron lake outlet	507
Jack Creek	240
Graben Creek.	171

NAMES OF TRIBUTARIES WITHIN MINNESOTA DRAINING INTO
THE MISSISSIPPI RIVER THROUGH THE
MISSOURI RIVER

Rock River.	872
Little Rock River.	130
Kanaranzi Creek.	186
Elk Creek.	58
Champepedan Creek.	23
Chamarambic Creek.	74
Big Sioux River	751
Beaver Creek	132
Split Rock Creek	440
Pipestone Creek.	68
Flandreau Creek.	105
Area draining into Big Sioux River north of Flandreau Creek	63
Little Sioux River.	113

HUDSON BAY DRAINAGE BASIN.

Summary

RED RIVER OF THE NORTH

Total area.	37,382
Tributary area within Minnesota, including the Roseau River	17,388
Tributary area in North and South Dakota.	17,952
Tributary area in Canada.	2,942

RAINY RIVER

Total area within Minnesota	10,454
Total Hudson Bay Drainage.	47,836

RED RIVER OF THE NORTH

Names of Tributaries

Areas within Minnesota bordering on Lake Traverse, between Browns Valley and the Mustinka River outlet.	74
Mustinka River, total.	831
Mustinka River above outlet of Five Mile Creek	199
Five Mile Creek.	150
Twelve Mile Creek.	368
Area within Minnesota bordering on Lake Traverse, and the Bois de Sioux River between the Mustinka River outlet and the outlet of the Rabbit River.	73
Area within Minnesota above the Rabbit River outlet Rabbit River	978
.	298

	Area, Square Miles
Area within Minnesota bordering on the Bois de Sioux River between the Rabbit River outlet and the Otter Tail River outlet	53
Area within North and South Dakota tributary to Lake Traverse and the Bois de Sioux River above the outlet of the Otter Tail River.	553
Area within Minnesota above the outlet of the Otter Tail River at Breckenridge.	1,334
Total drainage area above Breckenridge.	1,887
Otter Tail River.	1,824
Dead River	104
Toad River	110
Pelican River.	468
Area within Minnesota bordering on the Red River between the outlet of the Otter Tail River and Fargo	408
Area within North Dakota bordering on the Red River between the outlet of the Otter Tail River and Fargo	84
Wild Rice River (North Dakota).	2,169
Area within Minnesota above Fargo	3,566
Total area above Fargo.	6,372
Area within Minnesota bordering on the Red River between Fargo and the outlet of the Buffalo River	57
Buffalo River	1,124
Buffalo River (south branch)	444
Deerhorn Creek.	122
Whiskey Creek	80
Willow River.	160
Area within Minnesota bordering on the Red River between the outlet of the Buffalo River and the Minnesota Wild Rice River outlet.	40
Area in North Dakota bordering on the Red River between Fargo and the outlet of the Elm River . . .	192
Shayenne River (North Dakota)	7,336
Elm River (North Dakota).	468
Area within Minnesota above the outlet of the Minnesota Wild Rice River	4,787
Total drainage area above the outlet of the Minnesota Wild Rice River	15,589
Wild Rice River, Minnesota, total area.	1,510
White Earth River	199
Wild Rice (south branch).	357
Area within Minnesota bordering on the Red River between the outlet of the Minnesota Wild Rice River and the Marsh River outlet.	80
Area within North Dakota bordering on the Red River between the outlet of the Elm River and the Goose River outlet.	51
Goose River (North Dakota).	1,314
Area within Minnesota above the outlet of the Marsh River	6,377
Total area above the outlet of the Marsh River. . .	18,544
Marsh River	286

	Area, Square Miles
Area within Minnesota bordering on the Red River between the outlet of the Marsh River and the Sand Hill River outlet	59
Sand Hill River	544
Area within Minnesota bordering on the Red River between the outlet of the Sand Hill River and the Red Lake River outlet	40
Area within North Dakota bordering on the Red River between the Goose River outlet and Grand Forks. .	484
Total area above Grand Forks.	19,957
Red Lake River.	5,709
Tamarac River.	289
Shotley Brook.	65
Battle River	162
Black Duck River	269
Hay Creek.	42
Mud River.	64
Pike Creek	24
Big Rock Creek	30
Sandy River.	95
Area of Upper and Lower Red Lakes	440
Area bordering on the Red Lakes.	405
Area above the outlet of Lower Red Lake.	1,825
Area bordering on the Red Lake River between the outlet of Lower Red Lake and the Thief River outlet	482
Total area above the Thief River outlet.	2,367
Thief River.	1,168
Moose River	222
Area bordering on the Red Lake River between the Thief River outlet and the Clearwater River outlet	170
Total area above the Clearwater River.	3,705
Clearwater River	1,294
Badger Creek.	147
Lost River.	612
Poplar River	107
Hill River	200
Black River.	145
Area within Minnesota above Grand Forks +	13,015
Area within Minnesota bordering on the Red River between the outlet of the Red Lake River and the Grand Marais River outlet	17
Grand Marais River.	254
Area within North Dakota bordering on the Red Lake River between Grand Forks and the outlet of the Turtle River.	139
Turtle River (North Dakota)	699
Area bordering on the Red River between the outlet of the Grand Marais River and the Snake River outlet	36
Forest River (North Dakota)	1,122
Area within Minnesota above the Snake River outlet .	13,322
Total area above the Snake River outlet	27,933

	Area, Square Miles
Snake River	991
Middle River.	303
Area within Minnesota bordering on the Red River between the Snake River outlet and the Tamarac River outlet.	8
Area within North Dakota bordering on the Red River between the outlet of the Forest River and the Park River outlet	12
Tamarac River	520
Park River (North Dakota)	881
Area within Minnesota bordering on the Red River between the outlet of the Tamarac River and the Two Rivers outlet	263
Area within Minnesota above the Two Rivers outlet .	16,104
Two Rivers.	1,027
Area within Minnesota bordering on the Red River be- tween the outlet of the Two Rivers and the Inter- national Boundary	27
Roseau River, within Minnesota.	1,230
Area within North Dakota bordering on the Red River between the outlet of the Park River and the Pem- bina River outlet	454
Pembina River:	
Tributary area in North Dakota	1,994
Tributary area in Canada	2,042

HUDSON BAY DRAINAGE BASIN.

RAINY RIVER IN MINNESOTA*

Names of Tributaries

Areas bordering the Gunflint Lakes to Cross River outlet.	33
Cross River	88
Areas bordering on Saganaga, Knife and Basswood Lakes from the outlet of Cross River to the out- let of the Kawishiwi River.	400
Total area above the Kawishiwi River.	521
Kawishiwi River	1,402
Beaver River	57
Birch River (south fork Kawishiwi River)	26
Dunka River.	14
Stony River.	246
Burntside River.	142
Isabella River	333
Isabella River (south branch)	60
Area bordering on the Rainy River between the Kaw- ishiwi River outlet and the Loon River outlet . .	441
Total area above the Loon River	2,364
Loon River.	32
Area bordering on the Rainy River between the Loon River outlet and the Vermillion River outlet. . .	39
Total area above the Vermillion River	2,435
Vermillion River.	1,028
Armstrong River.	17

	Area, Square Miles
East Two Rivers.	10
West Two Rivers.	20
Pike River	199
Pelican River.	196
Elbow River	48
Echo Lake Outlet	102
Area bordering on the Rainy River between the Ver- million River outlet and the Namekin River outlet	49
Namekin River	34
Area bordering on the Rainy River between the Name- kin River outlet and the Moose River outlet . . .	15
Total area above the Moose River outlet	3,561
Moose River	48
Ash River.	146
Black Duck River	34
Area bordering on Namekin and Rainy Lakes between the Moose River outlet and the Rat Root River out- let	265
Total area above the Rat Root River outlet.	4,020
Rat Root River.	291
Area bordering on the Rainy River between the Rat Root River outlet and the Little Fork River out- let	73
Total area above the Little Fork River.	4,384
Little Fork River	1,767
Beaver Creek	22
Sturgeon River	504
Bearskin River.	172
Willow River	69
Net Lake River	191
Beaver Brook	121
Area bordering on the Rainy River between the Lit- tle Fork River outlet and the Big Fork River out- let	6
Total area above the Big Fork River outlet.	6,157
Big Fork River.	1,965
Bow String River (above Big Fork).	600
Caldwell Brook	157
Sturgeon River.	312
Area bordering on the Rainy River between the Big Fork River outlet and the Black River outlet . .	3
Total area above the Black River outlet	8,145
Black River	400
Area bordering on the Rainy River between the Black River outlet and the Rapid River outlet	125
Total area above the Rapid River outlet	8,670
Rapid River	900
Area bordering on the Rainy River between the Rapid River outlet and the Beaudette River outlet. . .	32
Total area above the Beaudette River.	9,602
Beaudette River.	96
Area bordering on the Rainy River between the Beau- dette River outlet and the Winter Road River. . .	21
Total area above the Winter Road River.	9,719
Winter Road River.	180
Area bordering on the Rainy River between the outlet of the Winter Road River and the mouth of the Rainy River	37

	Area, Square Miles
Total area in Minnesota above the mouth of the Rainy River	9,936
Area in Minnesota bordering on Lake of the Woods between the mouth of the Rainy River and the Warroad River outlet.	244
Warroad River	220
Area in Minnesota bordering on Lake of the Woods between the outlet of the Warroad River and the International Boundary.	54
TOTAL RAINY RIVER DRAINAGE AREA IN MINNESOTA. . . .	10,454
*No attempt has been made to determine extent of areas tributary to Rainy River, located within the Dominion of Canada.	

LAKE SUPERIOR DRAINAGE BASIN.

Summary

Total Lake Superior drainage area, including the Pigeon River tributaries in Canada (401 square miles).	6,259
Pigeon River, total area within Minnesota	227
Pigeon River, total drainage area	628

NAMES OF THE TRIBUTARIES

Pigeon River (including the Canadian tributaries) .	628
Area within Minnesota bordering on South, Rose, Rove, Mountain, Moose and North Powl Lakes.	88
Fine River.	25
Area within Minnesota bordering on South Powl Lake between the Fine River outlet and the Stump River outlet.	2
Stump River	18
Portage Brook	13
Area within Minnesota bordering on the Pigeon River between the Portage Brook outlet and the Missaich River outlet.	2
Missaich River.	49
Area within Minnesota bordering on the Pigeon River between the Missaich River outlet and Lake Su- perior.	30
Total drainage area of Pigeon River within Minnesota	227
Nemadji River	243
Net River.	68
Black Hoof Creek	45
St. Louis River	3,324
Partridge River.	183
Messaba Creek	38
Embarrass River.	180
Mud Hen River.	109
Water Hen River	29
Otter River.	21
East Two Rivers.	54
West Two Rivers.	84
East Swan River.	236

	Area, Square Miles
Stone River.	40
Sand Creek	62
Whiteface River.	496
Bug Creek	40
Paleface River.	61
Floodwood River.	302
East Savannah River	114
Stoney Brook (Yellow Pine)	80
Cloquet River.	749
Uahkabwaldka River	58
Boulder Creek	60
Little Cloquet (Pequaywan Lake outlet).	62
Cloquet River (west branch)	109
White Pine Creek	39
Otter Creek.	43
Midway Creek	58
Area bordering on Lake Superior between the St. Louis River outlet and the Amity Creek outlet.	67
Total area above the Amity Creek outlet	3,634
Amity Creek	10
Lester River.	46
French River.	22
Knife River	40
Stewarts River.	38
Encampment River.	19
Gooseberry River.	14
Split Rock River.	36
Area bordering on Lake Superior in St. Louis and Lake Counties below Amity Creek outlet.	197
Beaver Bay River.	158
Baptism River	136
Manitou River	102
Two Island River.	20
Cross River	78
Temperance River.	212
Poplar River.	167
Cascade River	89
Devil Track River	61
Greenwood River	16
Brule River	370
Poplar River.	20
Mawsiquawcawadu River.	28
Area bordering on Lake Superior in Cook County.	138
TOTAL LAKE SUPERIOR DRAINAGE AREA WITHIN MINNESOTA.	5,858