

Murrelet Summary Report - 1991  
prepared by Don Youkey October 1991

During the 1991 field season, the U.S. Forest Service and the National Park Service cooperated on a project to monitor inland sites for murrelet (Brachyramphus spp.) activity. Fourteen stations on 4 "transects" (Fig. 1) were surveyed by 3 crews of 2 or 3 individuals between 19 June and 1 August, 1991. Methods generally followed Paton et al. (1990) and were further described by Youkey (1991).

A total of 102 detections of murrelets at inland sites were made: 3 on the Resurrection River transect, 53 on the Bear Lake transect, 46 (including 6 observed between stations) on the Ski Lake transect, and 0 on the Highway transect. Murrelets were observed at all stations along the Bear Lake and Ski Lake "transects". The Highway "transect produced no sightings, even though observation conditions were excellent. Murrelets were detected at inland sites from 20 June to 1 August, but activity peaked in July (Fig. 2). Murrelets were observed from 65 minutes before, to 35 minutes after sunrise, but activity peaked just before sunrise (Fig. 3). Caution should be excersized when interpreting this data because of low sample size, varying sampling intensity, and varying weather conditions that influenced detectability. Fog and low clouds contributed to observation problems, especially at Ski Lake. Background noise associated with the river may have contributed to the low number of detections on the Resurrection River transect.

In addition to the objectives of the project met above, we also collected data on behavior and type of detection (Tables 1 and 2).

In conclusion, murrelets were observed at every station along the Bear Lake and Ski Lake transects, at 1 station on Resurrection River and at 0 stations along the highway transect. More birds seemed to be using the east and west sides of the "valley" at the Bear Lake transect as compared to the center. The same pattern was observed at the Ski Lake transect, yet the east side of the valley was not surveyed due to its inaccessibility. Further inland, the Highway transect produced no sightings in the center or on the east side of the "valley".

Recommendations for the 1992 breeding season include:

- 1) Move farther north on the west side of the valley to determine how far inland birds are travelling. Stations could be placed along the Grayling and Primrose trails.
- 2) Determine if birds are travelling up the Snow River valleys - both North and South forks. This may be logistically difficult, but perhaps a floatplane trip to a lake or lakes 2 to 5 miles up each fork above the confluence would be appropriate.
- 3) Determine if the birds are using forested areas and/or alpine areas for nesting. This could be accomplished by surveying at higher elevations, perhaps around Lost Lake.
- 4) Spend more time at 1 location where travel time between stations is excessive - 45 minutes before and after sunrise, or until murrelet activity ceases.
- 5) Run a few surveys in the fall/winter/spring to determine if birds are using inland sites other than during the breeding season.
- 6) Use a voice activated tape recorder to collect data where murrelet activity is high.

- 7) Obtain a tape recording of a mew gull: calls are similar to murrelets, but slightly slower and slightly lower in pitch. (Also would be nice to know what Kittlitz' murrelet sounds like.)
- 8) Conduct surveys at the end of the work-week so people have a chance to catch-up on sleep the next day.

Finally, I would like to thank National Park Service employees Susan and Jim Pfeiffenberger, who voluntarily did surveys along Resurrection River, and acknowledge the dedication of Forest Service volunteers, Jean Clough, Matt Lohrentz, Sierra Stoneberg, and Dave Waldrep, for foregoing sleep to stare at the sky and listen.

#### Literature Cited

Paton, P.W.C., C.J. Ralph, H.R. Carter, and S.K. Nelson. 1990. Surveying marbled murrelets at inland sites: a guide. Gen. Tech. Rep. PSW-120. Berkeley, CA, Pacific Southwest Research Station, USDA Forest Service. 9 pp.

Youkey, D.E. 1991. Marbled murrelet monitoring plan. Unpubl. Rept. Seward Ranger District, USDA Forest Service. 6 pp.

Table 1. Flight behavior of murrelets for each detection at 11 sites along Bear Lake, Ski Lake and Resurrection River "transects" on the Seward Ranger District, 1991. Behaviors are described in Paton et al. (1990).

| Site                      | Behavior  |           |              |             |           | Total     |
|---------------------------|-----------|-----------|--------------|-------------|-----------|-----------|
|                           | Fly over  | Circle    | Circle below | Fly through | Unknown   |           |
| <b>Bear Lake</b>          |           |           |              |             |           |           |
| 1                         | 13        | 2         | 0            | 0           | 4         | 19        |
| 2                         | 6         | 0         | 0            | 0           | 3         | 9         |
| 3                         | 8         | 9         | 0            | 0           | 8         | 25        |
| Subtotal                  | 27        | 11        | 0            | 0           | 15        | 53        |
| <b>Ski Lake</b>           |           |           |              |             |           |           |
| 1                         | 7         | 5         | 1            | 2           | 17        | 32        |
| 2                         | 0         | 0         | 0            | 1           | 3         | 4         |
| 3                         | 0         | 0         | 0            | 0           | 4         | 4         |
| Subtotal                  | 7         | 5         | 1            | 3           | 24        | 40        |
| <b>Resurrection River</b> |           |           |              |             |           |           |
| 1                         | 3         | 0         | 0            | 0           | 0         | 3         |
| 2                         | 0         | 0         | 0            | 0           | 0         | 0         |
| 3                         | 0         | 0         | 0            | 0           | 0         | 0         |
| 4                         | 0         | 0         | 0            | 0           | 0         | 0         |
| 5                         | 0         | 0         | 0            | 0           | 0         | 0         |
| Subtotal                  | 3         | 0         | 0            | 0           | 0         | 3         |
| <b>Total</b>              | <b>37</b> | <b>16</b> | <b>1</b>     | <b>3</b>    | <b>39</b> | <b>96</b> |

Table 2. Type of detection of murrelets at 11 sites along Bear Lake, Ski Lake and Resurrection River "transects" on Seward Ranger District, 1991. Detection types are described further in Paton et al. (1990). Types of detections not listed were not observed.

| Site                      | Minutes surveyed | Type of Detection |           |                |           | Total     |
|---------------------------|------------------|-------------------|-----------|----------------|-----------|-----------|
|                           |                  | Heard only        | Seen only | Heard and seen | Jet sound |           |
| <b>Bear Lake</b>          |                  |                   |           |                |           |           |
| 1                         | 24               | 7                 | 0         | 12             | 0         | 19        |
| 2                         | 20               | 3                 | 6         | 0              | 0         | 9         |
| 3                         | 20               | 8                 | 6         | 11             | 0         | 25        |
| Subtotal                  | 64               | 18                | 12        | 23             | 0         | 53        |
| <b>Ski Lake</b>           |                  |                   |           |                |           |           |
| 1                         | 54               | 18                | 10        | 3              | 1         | 32        |
| 2                         | 31               | 4                 | 0         | 0              | 0         | 4         |
| 3                         | 58               | 4                 | 0         | 0              | 0         | 4         |
| Subtotal                  | 143              | 26                | 10        | 3              | 1         | 40        |
| <b>Resurrection River</b> |                  |                   |           |                |           |           |
| 1                         | 30               | 3                 | 0         | 0              | 0         | 3         |
| 2                         | 30               | 0                 | 0         | 0              | 0         | 0         |
| 3                         | 30               | 0                 | 0         | 0              | 0         | 0         |
| 4                         | 30               | 0                 | 0         | 0              | 0         | 0         |
| 5                         | 20               | 0                 | 0         | 0              | 0         | 0         |
| Subtotal                  | 140              | 3                 | 0         | 0              | 0         | 3         |
| <b>Total</b>              | <b>347</b>       | <b>47</b>         | <b>22</b> | <b>26</b>      | <b>1</b>  | <b>96</b> |

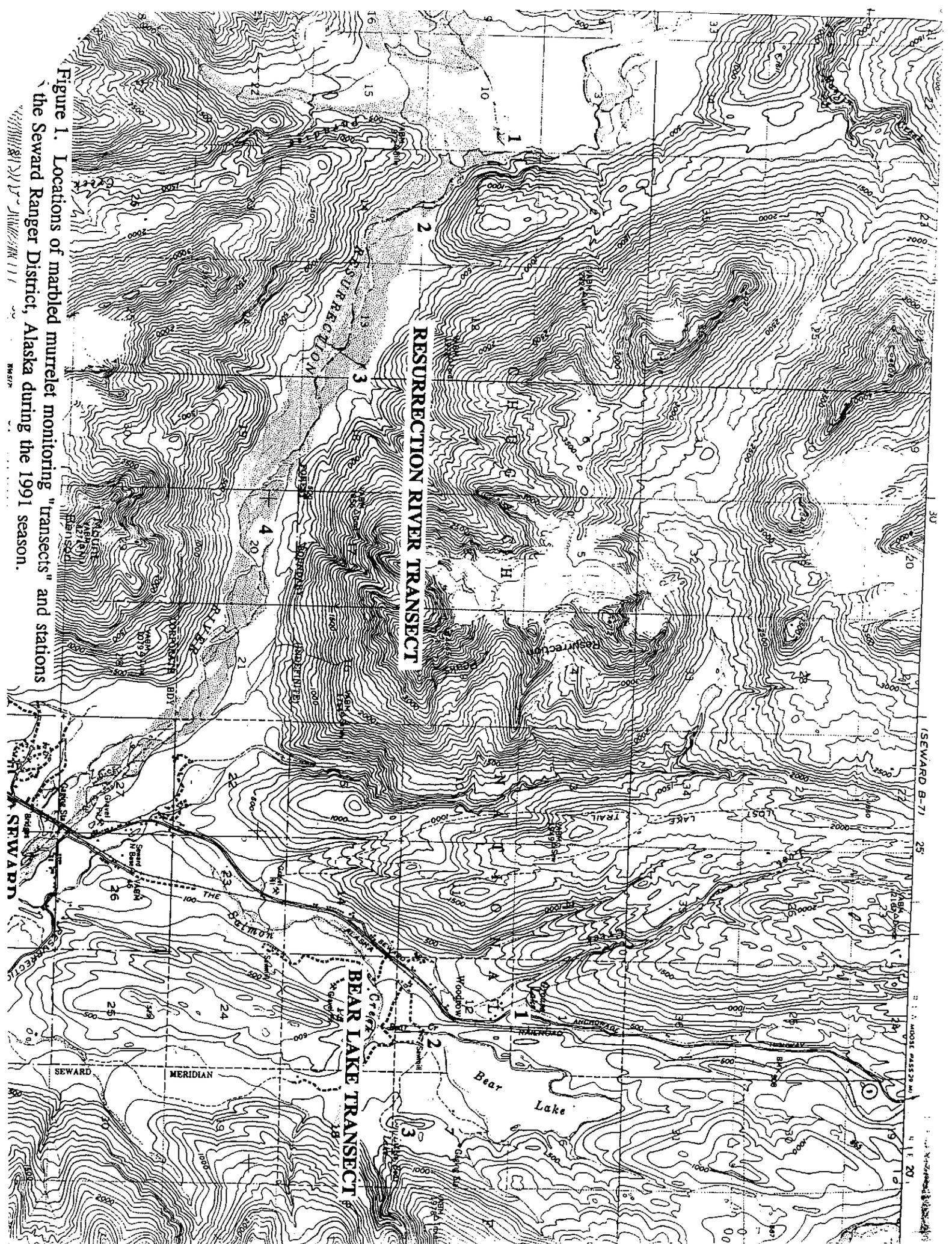


Figure 1. Locations of marbled murrelet monitoring "transects" and stations in the Seward Ranger District, Alaska during the 1991 season.

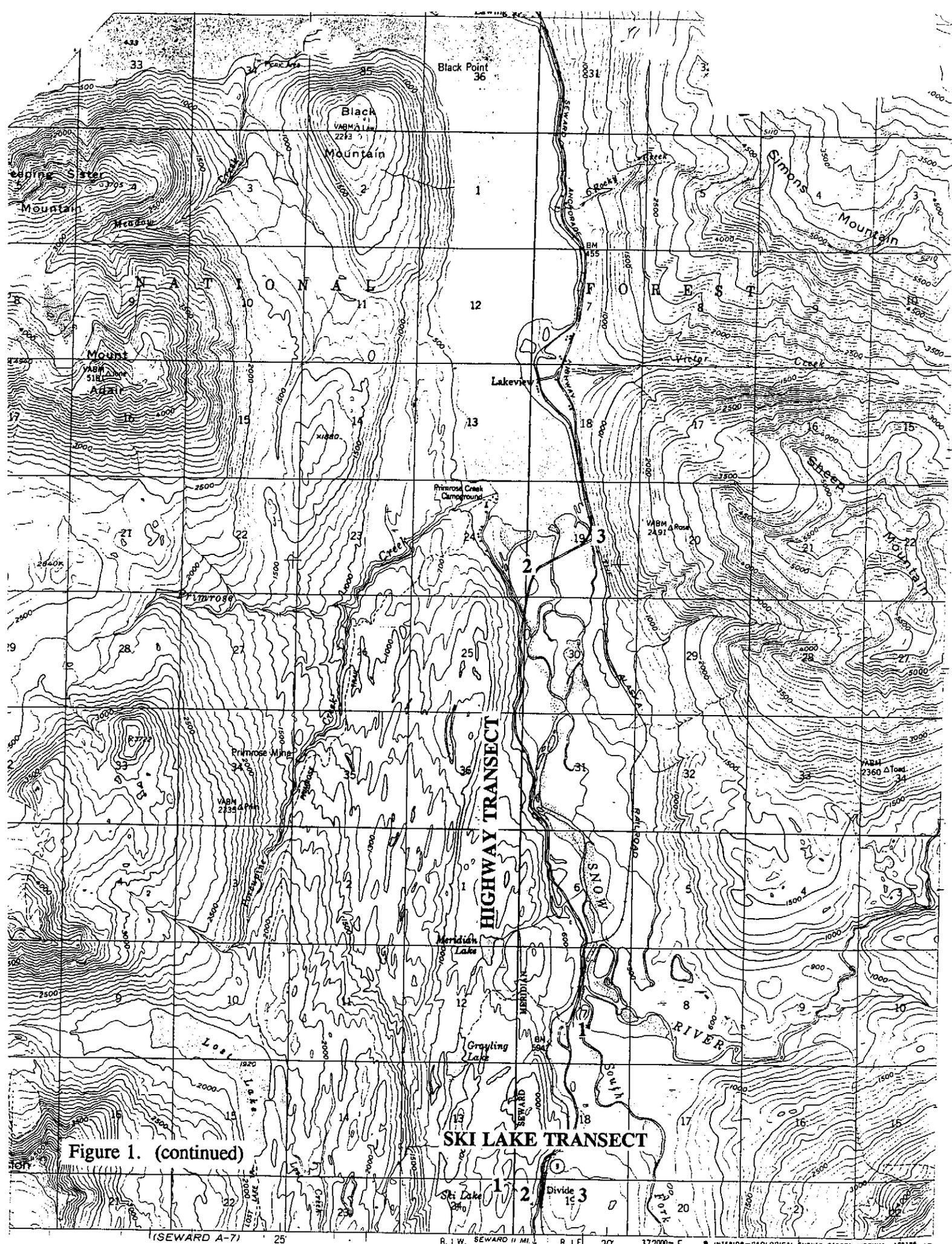


Figure 1. (continued)

**SKI LAKE TRANSECT**

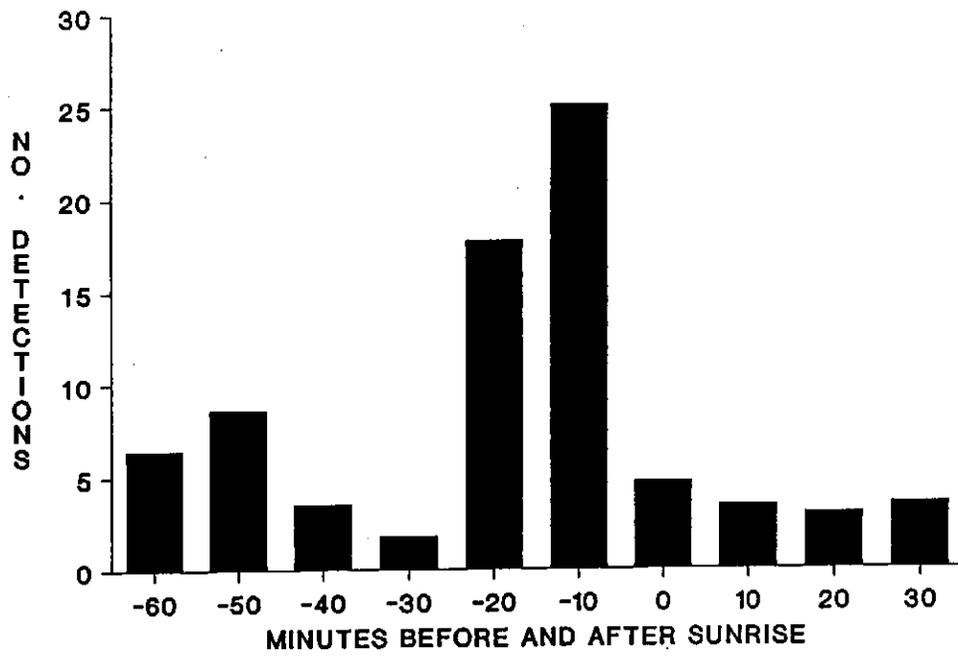


Figure 2. Number of detections of murrelets relative to sunrise on Seward Ranger District, 19 June - 1 August, 1991.

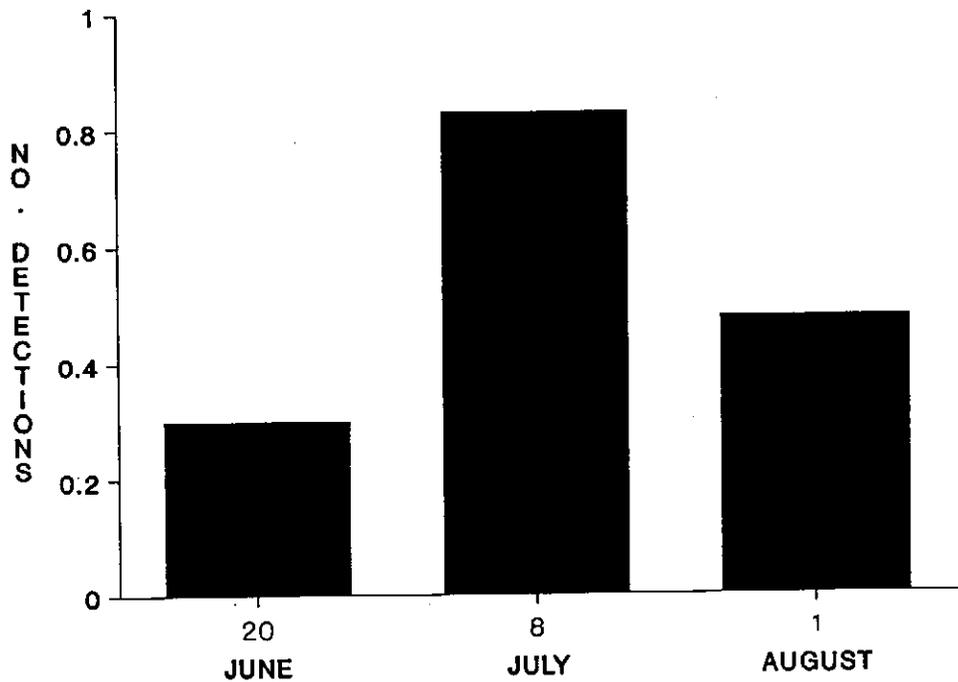


Figure 3. Number of detections of murrelets per 10 minute interval on Ski Lake and Bear Lake transects, Seward Ranger District, 1991.

Circle one: Transect Stationary Count Grid Count

Name: Don, Matt, Dave, John Sera Transect: Resurrection River

Observers initials Month Day Year PV Transect Percent Cloud Cover Precip. Official Sunrise or Sunset

|   |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|--|--|--|--|---|---|---|---|---|---|---|---|---|
| 1 | M | W | L | 0 | 6 | 1 | 9 | 9 | 1 |  |  |  |  | 1 | 0 | 0 | D | 0 | 4 | 3 | 2 | S |
|---|---|---|---|---|---|---|---|---|---|--|--|--|--|---|---|---|---|---|---|---|---|---|

Sta. No. Min. Obs. Time Num. birds Bird Height Initial Direct. Det. B e h V o c T y p Depart. Direction Closest Dis. to Bird S w i f t

|   |  |  |      |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|--|--|------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1 |  |  | 4:07 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |  |  | 4:17 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  | 4:32 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |  |  | 4:42 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  | 4:51 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |  |  | 5:01 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  | 5:10 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |  |  | 5:20 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Precipitation (Prec.): N=None, F=Fog, D=Drizzle, R=Rain  
 Beh. (Behavior): F=Fly over, C=Circle, B=Circle Below, T=fly Through, L=Land or stationary, U=Unknown  
 Voc. (vocalization): V=Visual-silent, 1-9=Number of 'keer' calls notes heard, M=Multiple 'keer' calls (>9)  
 Typ. (type): B=Both seen and heard, A=Alt. voc., C=Alt. voc. & seen, W=wings only, J=Jet sound  
 H=Heard only, S=Seen only-silent  
 Swift: Vaux's Swift numbers at station: 0=none, 1=1-10, 2=11-50, 3=>50

Notes: \_\_\_\_\_

