



ALMS report from the field

Northern Pacific Rainforest

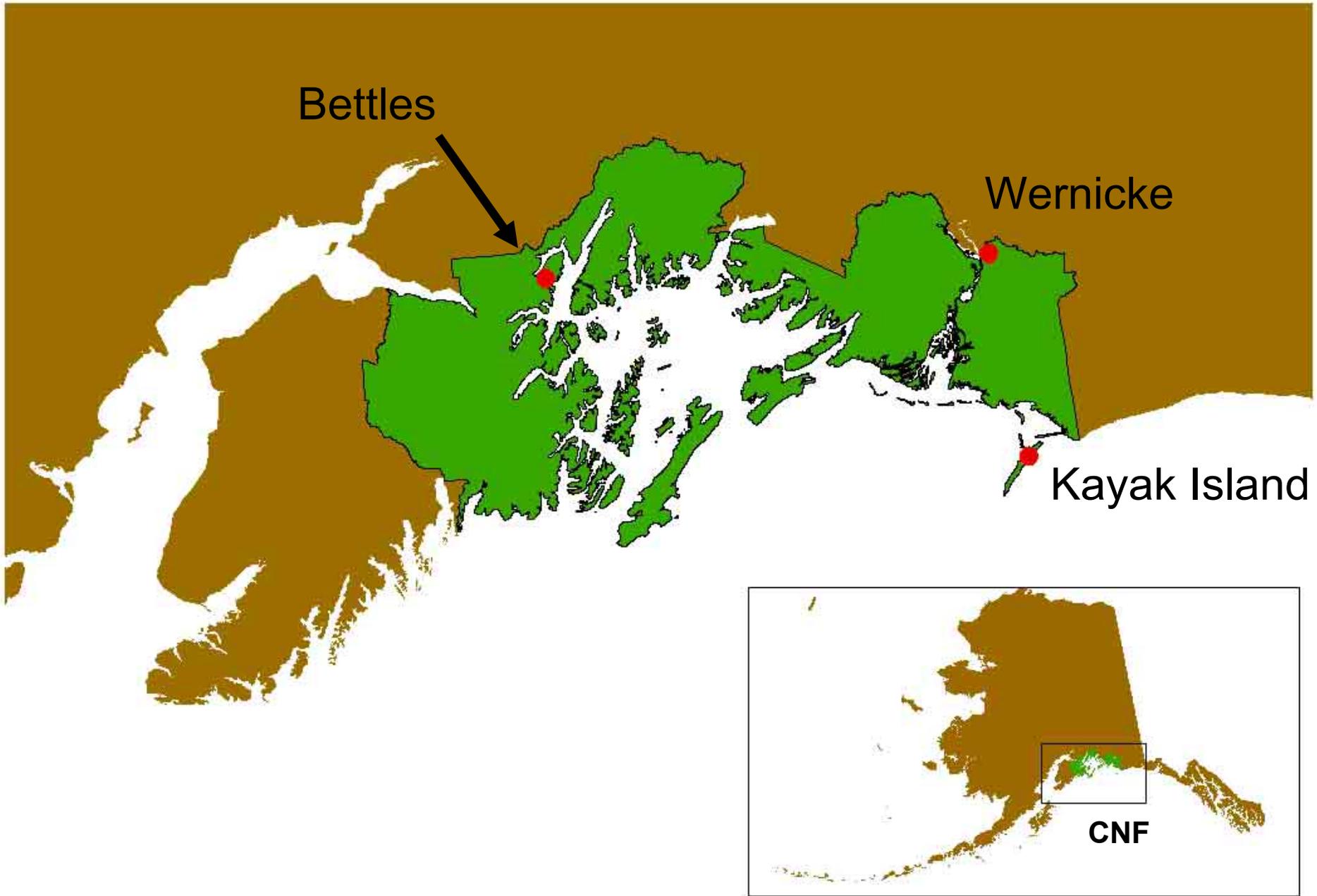
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Erin Cooper, Chugach NF
Gwen Baluss, Tongass NF
Rob McKee, Tongass NF

U.S. Department of the Interior
U.S. Geological Survey

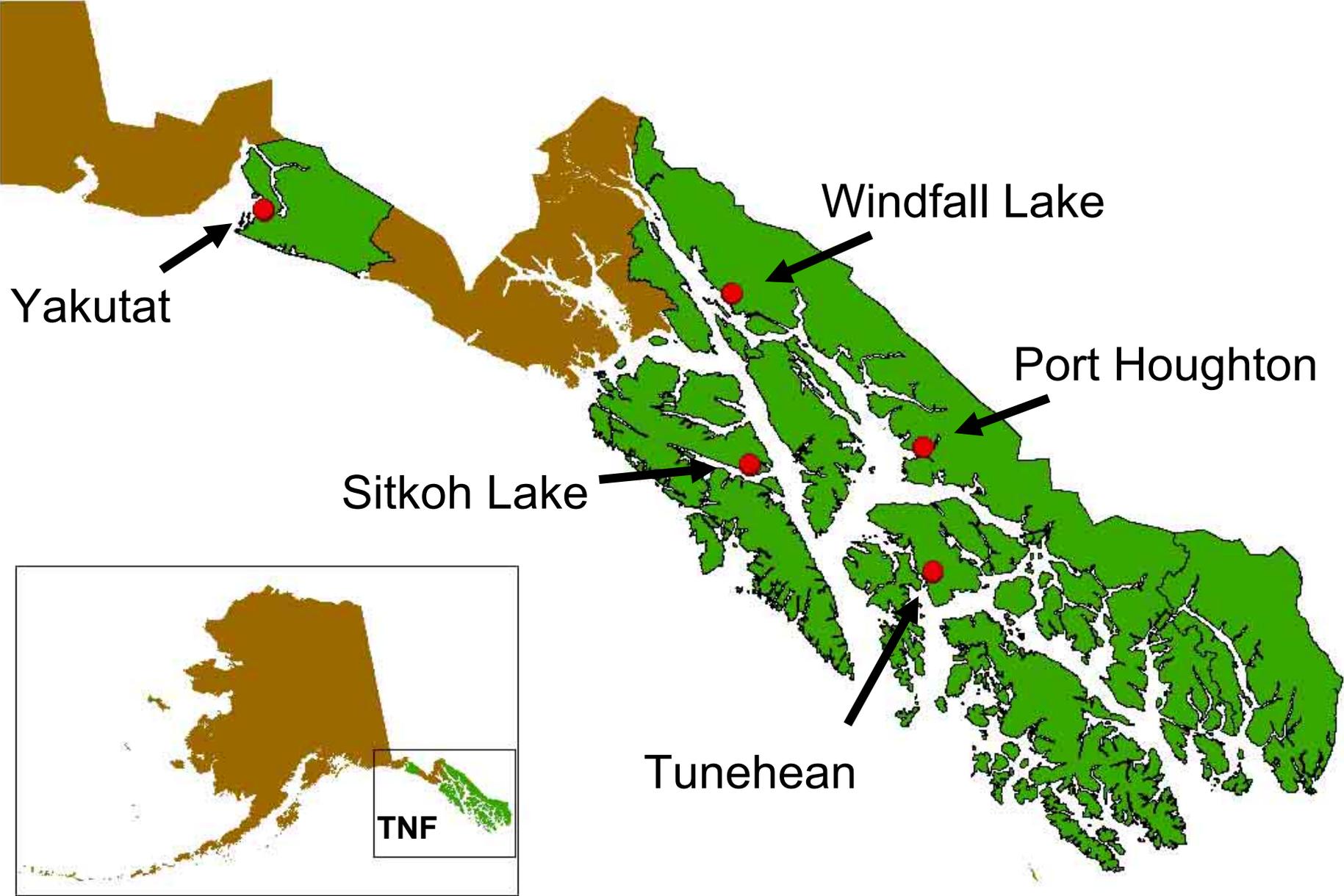
Overview

- Site locations
- Habitats encountered
- Methods by site
- Birds encountered
- Problems
- Expenses

Chugach National Forest ALMS Sites, 2003



Tongass National Forest ALMS Sites, 2003





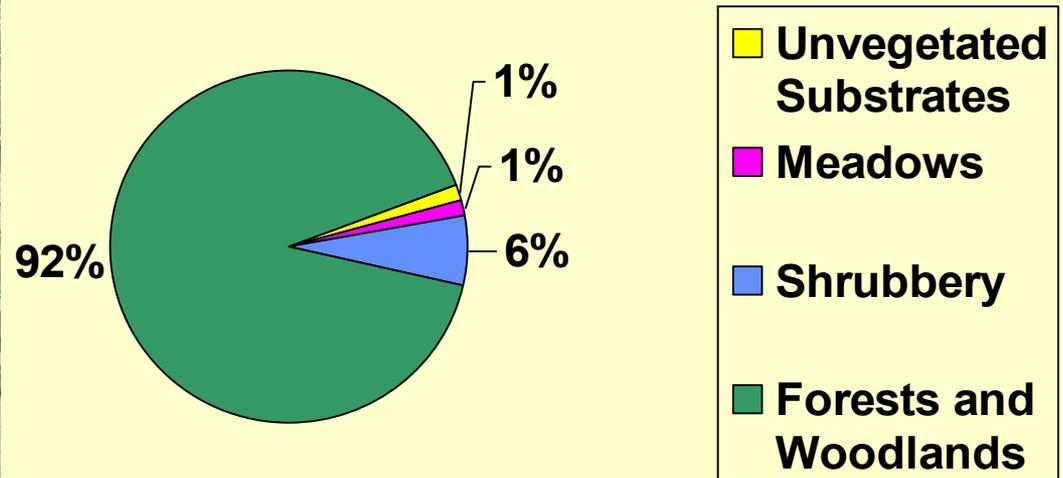


DANGER
REMARK
NO. 100
P...

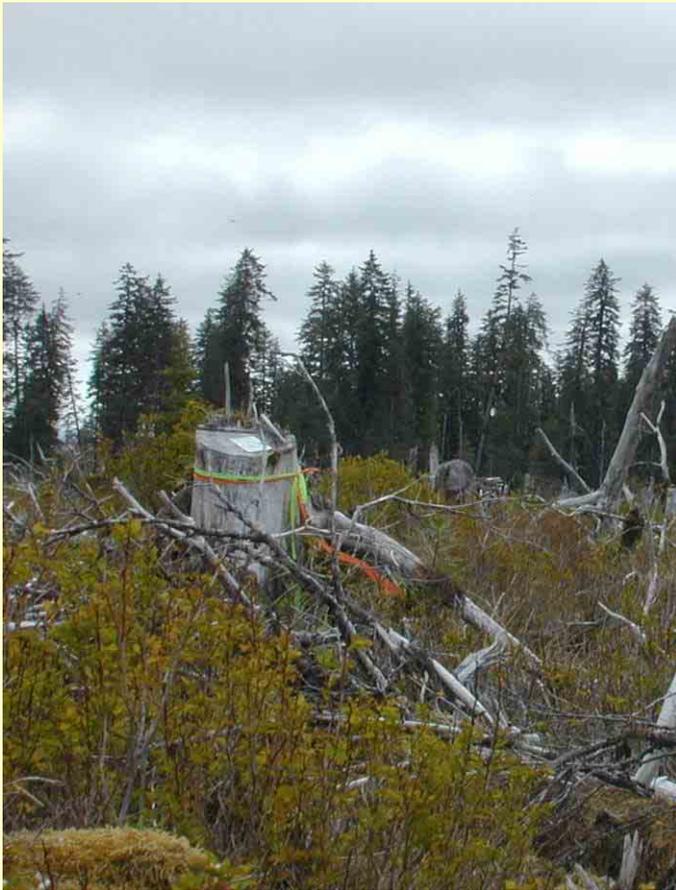
Habitats Encountered



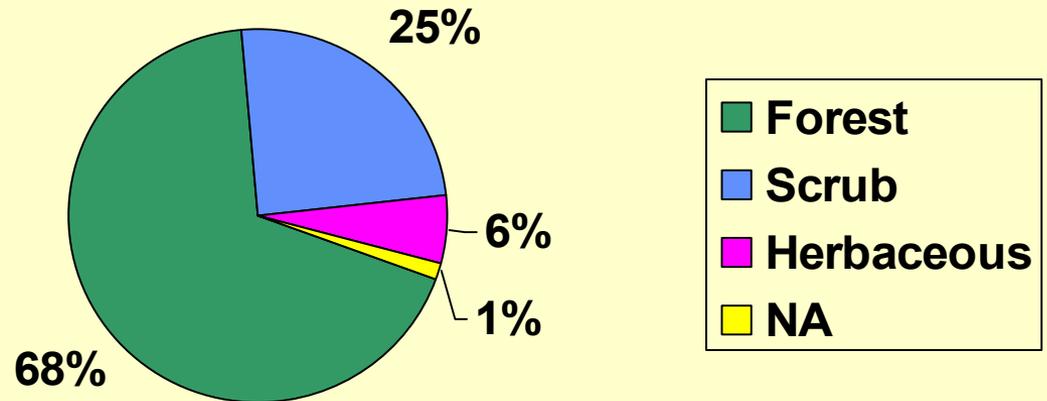
Kessel Habitats



Habitats Encountered



Viereck Habitats





Field Methods

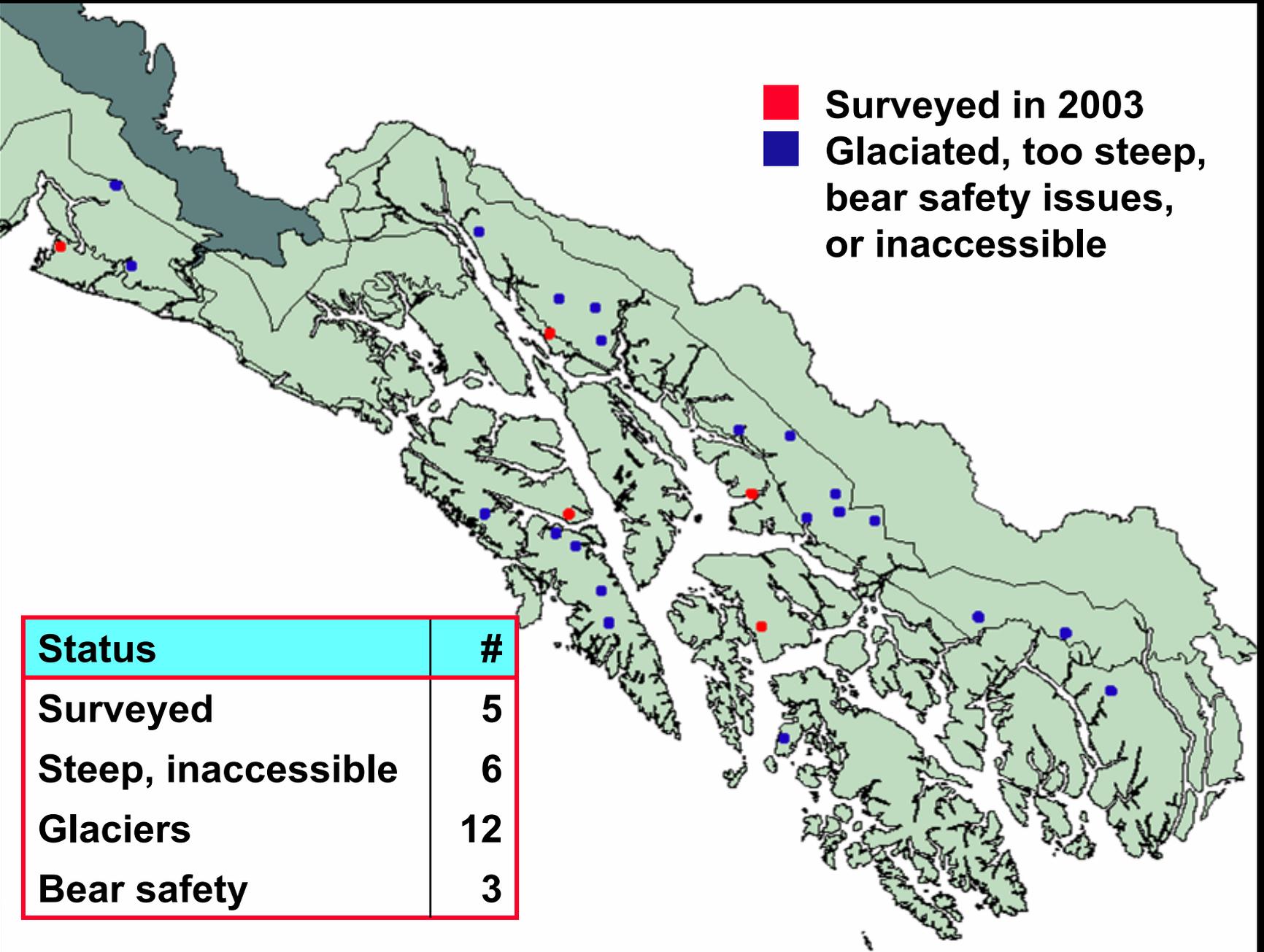
Block	Transportation	Location of Camp	Navigation
Bettles	Boat	Boat/Grid	GPS (first point); compass and rangefinder
Wernicke	Wheeled plane/Airboat	Near grid	GPS; compass and rangefinder
Kayak Island	Wheeled plane	Edge of grid	GPS; veg too thick for rangefinder
Yakutat	Alaska Airlines/Car	Town	GPS (bearings); compass and rangefinder
Windfall Lake	Car/Trail	Cabin/Grid	GPS (first point); compass and rangefinder
Port Houghton	Boat	Boat	GPS; compass and rangefinder
Sitkoh Lake	Alaska Airlines/Float plane/Car	Cabin	GPS (first point); compass and rangefinder; aerial photos
Tunehean	AMHS Ferry/Helicopter	Edge of grid	GPS (first point); compass and rangefinder; aerial photos

Field Methods

Block	Number of Crew Members (Veg/Birds)	Number of Visits	Number of Days of Bird Surveys	Number of Points
Bettles	2/2	2	2	15
Wernicke	2/1	1	3	15
Kayak Island	2/1	1	3	16
Yakutat	4/1	1	3	17
Windfall Lake	7/2	2	3	20
Port Houghton	2/1	1	2	8
Sitkoh Lake	2/1	1	2	14
Tunehean	2/1	1	2	15

Challenges: Block Setup

- **Site access**
 - Many sites are not accessible and must be discarded
 - Lack of accessibility sometimes impossible to determine prior to site visit



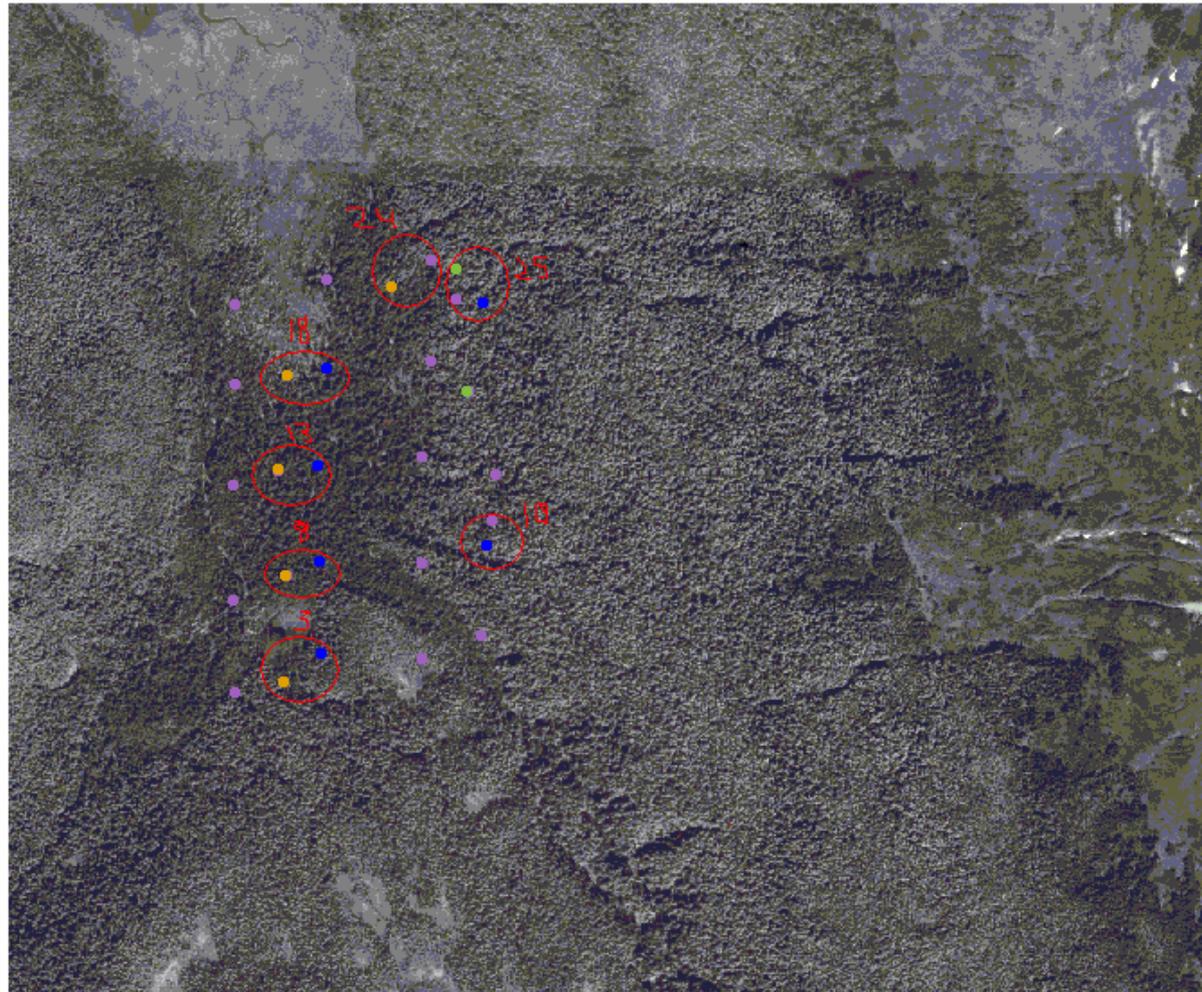
■ Surveyed in 2003
■ Glaciated, too steep, bear safety issues, or inaccessible

Status	#
Surveyed	5
Steep, inaccessible	6
Glaciers	12
Bear safety	3

Challenges: Block Setup

- **Navigation to points within a block**
 - **Poor GPS coverage, inaccurate/inconsistent GPS locations, satellites obscured by dense canopy**

ALMS POINT COUNT 2003
 WINDFALL LAKE --GRID #15489



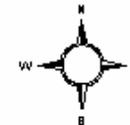
Grid Configuration

22 23 24 25
 17 18 19 20
 12 13 14 15
 7 8 9 10
 2 3 4 5

 Clusters where point locations differ more than 20 m

Cover layers used

-  Windfall_corrected.shp
-  Aaron_windfall.shp
-  Erin_windfall.shp
-  Windfall.shp



-  Pts 25, 20 taken by A Poe
 -  Pts 24, 18, 13, 8, 24 taken by E.Cooper
 -  All points taken by G. Baluss
- Note:** These do not show for those points that were identical for both readings 18, 13, 08, 03, 20
-  Point locations based on field notes

Challenges: Block Setup

- **Navigation to points within a block**
 - **Dense brush and steep grades make for slow going and inaccurate locations when GPS unavailable**
 - **Random directions for moving points difficult to apply**

Challenges: Block Setup

“Very tough going, brushy and steep with unstable slopes”



Challenges: Vegetation Data Collection

- Vegetation changed markedly between the time vegetation data were collected and when bird surveys were conducted
- Timber harvest planned in the near future will obscure marked plots
- Need to clarify relative vs. absolute cover in layer species

ALMS HABITAT POINT DATA

Land unit _____ Date _____
 Block # _____ Observer _____
 Point # _____ Elevation (m) _____ Aspect _____ Slope _____

Habitat # ___ of ___ % of 50-m circle _____ Photo roll: _____ Frame: _____

Water: None Stream/river Pond/lake Ephemeral
 Disturbance: Fire Logging Wind Other _____

TREE canopy cover (> 3m): 0 1-9 10-24 25-59 >60%
 % coniferous: <10% 10-25 26-74 75-89 >90%

TREE LAYER species % cover

	Avg. ht.			
	3-5	5-9	9-21	>21m
1. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DWARF tree or SAPLING (< 3m): Total cover < 10%? Yes No

Layer	Avg. ht. (m)	% cover				Species (list)
		0	1-9	10-24	25-59 >60%	
1.	<input type="checkbox"/>	_____				
2.	<input type="checkbox"/>	_____				

SHRUB LAYERS (< 3m): Total cover < 25%? Yes No

Layer	Avg. ht. (m)	% cover			Species (list for each layer)
		<25	25-74	>75%	
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

HERB LAYER:

Graminoids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Herbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ferns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Horsetails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

MOSS/LICHEN:

Mosses/hepatics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Lichens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Litter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Bare ground/talus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

SOIL: Periodically tidal Wet Moist Well-drained, dry

CLASSIFICATION: Viereck: _____ Kessel: _____
 USGS Alaska Science Center 20 May 2003

Challenges: Bird Surveys

- Poor weather
- Difficulty estimating distance to detected birds
- Difficulty putting all birds in correct time interval, especially at the beginning of the time interval at busy sites



Challenges: Bird Surveys

*Mark another
RUHU at 10m,
Bob!*

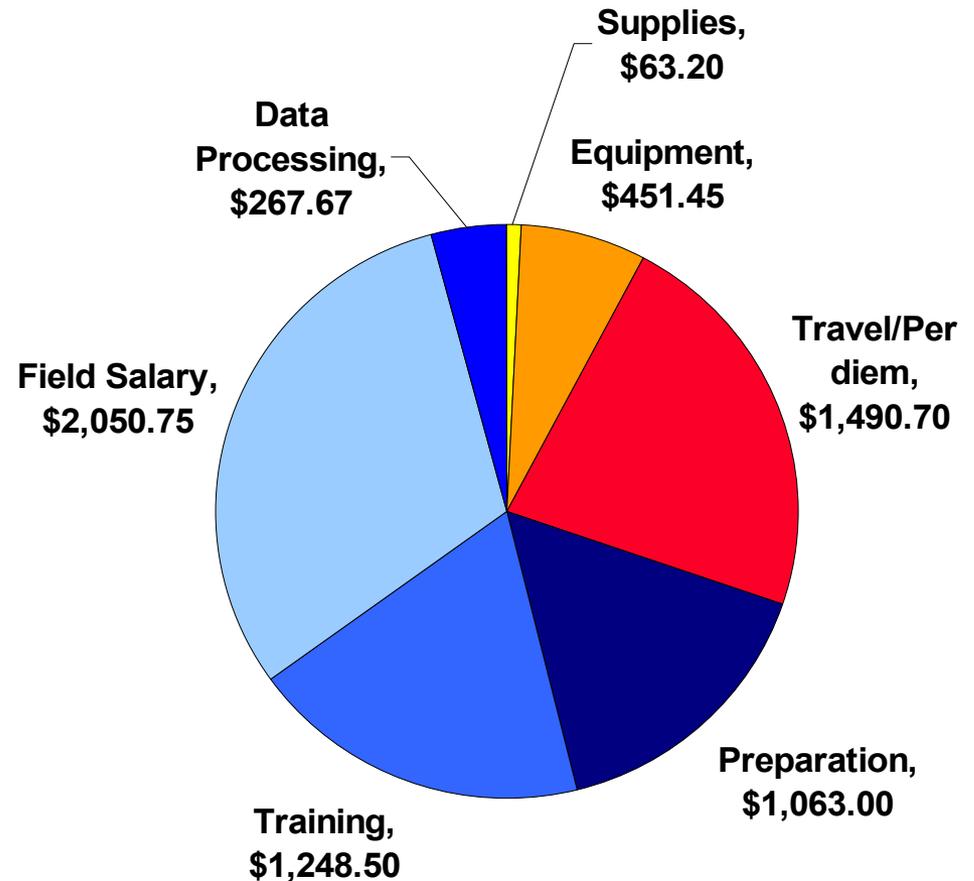


Photo by William Zittrich

Average Expenses for ALMS Blocks in BCR 5

- \$6635.27/block
- \$452.41/point

- Expenses expected to decrease over time



Comparison to ORBBS

- Expense - more expensive
 - Habitats sampled – 5 of 8 sites in BCR 5 were not readily accessible to humans
 - Birds sampled - similar suites of species so far
 - Potential to meet monitoring needs
 - already enough data to conduct distance analysis on 12 species of birds
 - Easy to incorporate Red Squirrels as well
-

Acknowledgements

- **U. S. Forest Service Region 10**
 - **Chugach National Forest**
 - **Glacier Ranger District**
 - **Cordova Ranger District**
 - **Tongass National Forest**
 - **Juneau Ranger District**
 - **Yakutat Ranger District**
 - **Sitka Ranger District**
 - **Petersburg Ranger District**
 - **Wrangell Ranger District**

Methods by site

- Bettles
- 2 trips to the site
- Camped in tent and slept on boat on grid
- Completed 15 points
- **CNF, GRD Attempted 2 sites, completed 1-access prohibited by snowfields, cornices, points covered in snow in June, also safety issues with avalanche paths, Access was the biggest issue for CNF, GRD.**
- 2 observers, used double observer method
- 1 day to get in and 1 day to get out.
- Most points set up in previous visit, but last few set up as point counts completed
- Navigated by finding starting point w/ GPS then compass and rangefinder to navigate
- Points marked with flagging and metal tags
- **CNF, GRD Thought +/- 10m to 100, +/- 20m >100, anything beyond 200 hard to say**
- Could not do more than 10 points in a morning.
- No weather delays.
- **CNF, GRD thought these surveys were 50% more expensive than other off-road counts.**
- **CNF, GRD thought these surveys sampled similar habitats to those encountered in other types of surveys on their district.**

Methods by site

- Wernicke
- Camped 500m from block in a tent.
- Completed surveys and veg in one trip, 3 days of surveys.
- Flew in by wheeled plane then hiked 3 miles to site, took 4 hours due to thick alder. Left site via airboat. **CNF, CRD travel was difficult (brushy).**
- Vegetation data was collected at the same time as bird surveys best efficiency.
- 2 observers, did not use double observer methods
- **How did she navigate between plots??? I think just with GPS.**
- **How many points did they complete?**

Methods by site

- Kayak Island, camped 80 m from point 8 on the beach in a tent.
- Flew in and out on a wheeled plane that landed on the beach. Hiked in 2 miles along the beach.
- Completed 15 points in 3 days of surveying/veg. spent a half day each way getting in and out of the site, had 2 bad weather days.
- Did veg the first day, then vegged as they went in conjunction with bird surveys
- Plots were marked with flagging and orange trail markers.
- **Thick veg prevented use of rangefinders.**
- Used GPS to navigate
- **2 points were moved; 1 too steep, 1 due to stream noise.**
- Used 2 crew members, but did not do double observer.

Methods by site

- Yakutat; 1 visit
- Spent 4 days for whole plot; 17 points completed
- ?veg? was conducted by 4 people; teams of 2? See datasheets to determine teams and if veg done at the same time as bird surveys
- Flat topography. **Timber sale planned may obscure points in the future.**
- Bearings determined by GPS, distance was determined with a rangefinder.
- **Traversing was slow due to logs and slash.**

Methods by site

- Windfall Lake
- Traveled to/from site by car and by foot (trail through the site). Camped in cabin near plot and in tents on plot.
- Completed in 2 visits. 2 observers split bird surveys, but veg completed by 7 observers during “training” session.
Understory veg had changed considerably between time of collection and time of surveys, some had to be redone during bird surveys.
- Surveys were conducted in 2 days, veg was completed in 2-3 days, mostly earlier.
- First point established with GPS, other points located with compass and rangefinders.
- **Points recorded by different folks/GPSs did not match well, despite visiting the same marked locations.**
- Points marked with flagging and plastic tree flags.

Methods by site

- Port Houghton
- Marked with flagging and plastic wildlife tree tags
- Surveyed for birds at 8 points, but completed vegetation at only 1.
- Slept on the Forest Service vessel, Admiralty Ranger. Boated over every morning via zodiac.
- 2 crew members. Both assisted with veg, but only 1 recorded birds.
- 4 days spent on the site, 2 for bird surveys, 2 for arrival, setup, and travel away.
- **Very tough going, brushy and steep with unstable slopes.**
- All work completed in 1 visit to the site.

Methods by site

Sitkoh Lake

Travelled back and forth via float plane to field camp and reached site via truck at that camp. Stayed in cabin several miles from plot (30 minutes drive)

Completed 14 stations. Set up as many as possible on the day of arrival, then setup remainder during surveys and after survey time was up each morning.

Completed in 1 visit. Had horrible weather the first day, but did not prevent surveys because we did veg that day.

2 observers collected veg, but only 1 of the 2 conducted bird surveys; always worked in pairs-one gunbearer

Loads of bear sign everywhere, Chichagof has high brown bear density, 1/km².

Completed site in 3 days, 1 veg, 2 surveys and veg.

Very difficult to determine where we were. Did not trust GPS, Aerial photos from 1984, ridiculously dense brush/trees prevented use of rangefinders/GPS. Some sites are definitely greater whereas some are definitely closer than 250 m. According to the GPS coordinates recorded, the closest site is about 100m from the closest point, While farthest 2 adjacent points are 360 m apart.

Hummingbirds were attracted to field partner's red hardhat (summarize ruhu detection distances for Sitkoh Lake compared to other sites on the TNF??11 of 20 independent detections in BCR5 were all on the Sitkoh lake route.

Methods by site

- **Tunehean**
- **Travel to and from site by helicopter from Petersburg, about 20 minutes each way.**
- **Camped on the edge of the plot about 100 m from nearest point, 23.**
- **Veg completed on day of arrival, then as surveys were completed**
- **15 points completed, 2 crew members, only one collected bird data. Always worked in pairs.**
- **Lost a day of surveying due to bad weather, so did more veg instead.**