

# UAVS AND GROUND SAR OPERATIONS

MICHAEL COYLE

COQUITLAM SEARCH AND RESCUE

BLUETOQUE SOFTWARE



5465000

508000

509000

510000

511000

Farrer Cove

Wharf

Wharf

Belvedere

WHITE PINE BEACH ROAD



Wharf

Buntzen Lake

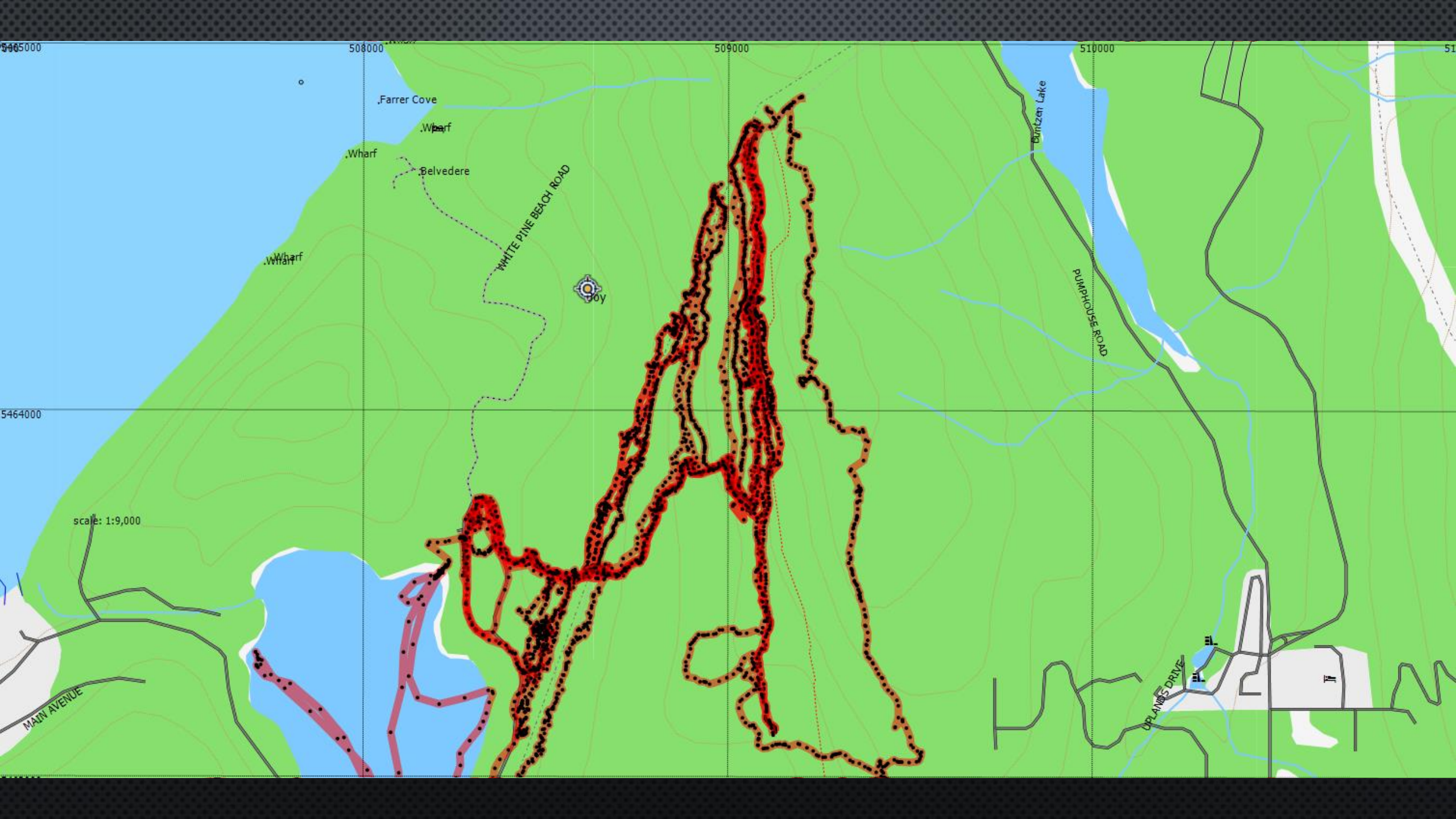
PUMPHOUSE ROAD

5464000

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MAIN AVENUE

UPLANDS DRIVE





# ABOUT ME

- SAR
  - MANAGER WITH COQUITLAM SAR
  - VOLUNTEER FOR THE PAST 13 YEARS
  - ONE OF THE BUSIEST SAR TEAMS IN BC
- PROFESSIONAL
  - SOFTWARE CONSULTANT AND DEVELOPER
  - EXPERIENCE WRITING EMERGENCY MANAGEMENT SOFTWARE
  - JUSTICE AND PUBLIC SAFETY (LAW ENFORCEMENT)
  - GEOSPATIAL/GIS/MAPPING SOFTWARE
  - TRUENORTH GEOSPATIAL





# GROUND SAR IN BC

- 80 ALL VOLUNTEER GROUND SAR TEAMS
  - MOST REGISTERED CHARITIES / NON PROFITS
- 2500 VOLUNTEERS
  - NO PAID SEARCHERS WHATSOEVER
- 1300 INCIDENTS PER YEAR
  - MORE THAN THE REST OF CANADA COMBINED
- 95% MISSING PEOPLE FOUND ALIVE
- 94% OVER IN 12 HOURS





# BC SEARCH AND RESCUE ASSOCIATION

- AGENCY REPRESENTING ALL SAR GROUPS IN BC
- ACTS AS LIAISON TO FEDERAL AND PROVINCIAL GOVERNMENT
- SAR STAKEHOLDER AGENCIES ON THE BOARD
  - RCMP
  - BC AMBULANCE
  - FIRE CHIEF'S ASSOCIATION
- MAKE RECOMMENDATIONS ON SAR TECHNIQUES



# GROUND SAR

- TECHNICAL RESCUE SKILLS
  - MOUNTAIN
  - AVALANCHE
  - ROPE RESCUE
  - SWIFT WATER
  - HELICOPTER LONG LINE
- EXTENSIVE USE OF HELICOPTERS
  - CIVILIAN HELICOPTERS





# OTHER ASSETS

- RCMP AIR ASSETS
  - FLIT EQUIPPED HELICOPTERS
- CANADIAN FORCES SEARCH AND RESCUE SQUADRON 442, COMOX
- CANADIAN AIR SEARCH AND RESCUE ASSOCIATION (CASARA OR EMBC-AIR)
- COAST GUARD SHIPS AND HOVERCRAFT
- MUTUAL AID BETWEEN SAR TEAMS





# USE OF UAVS

- NOT OFFICIALLY CONDONED
  - NO AUTHORISATION FOR REPAYMENT, INSURANCE ETC
- NOT CONSIDERED PROVEN TECHNOLOGY
- MANY SAR GROUPS INTERESTED
  - SEVERAL EXPERIMENTING WITH SMALL UNITS
  - EAGER FOR ANOTHER TOOL





# USES UNDER CONSIDERATION

- PRIMARY SEARCH
  - SPECIALIZED SENSORS
- INFORMATION GATHERING
  - LOOK IN DANGEROUS TERRAIN
    - CLIFF, CANYON
    - AVALANCHE
  - SITUATIONAL AWARENESS
  - MAPPING
- COMMUNICATIONS PLATFORM





# CHALLENGES

- REGULATORY REQUIREMENTS
- COST / SKILLS DEVELOPMENT
- ACCEPTANCE AS OPERATIONAL TOOL
- INFORMATION ON EFFECTIVENESS
- RANGE, PAYLOAD
- DELAY BETWEEN DETECTION AND RESCUE





# ADVANTAGES

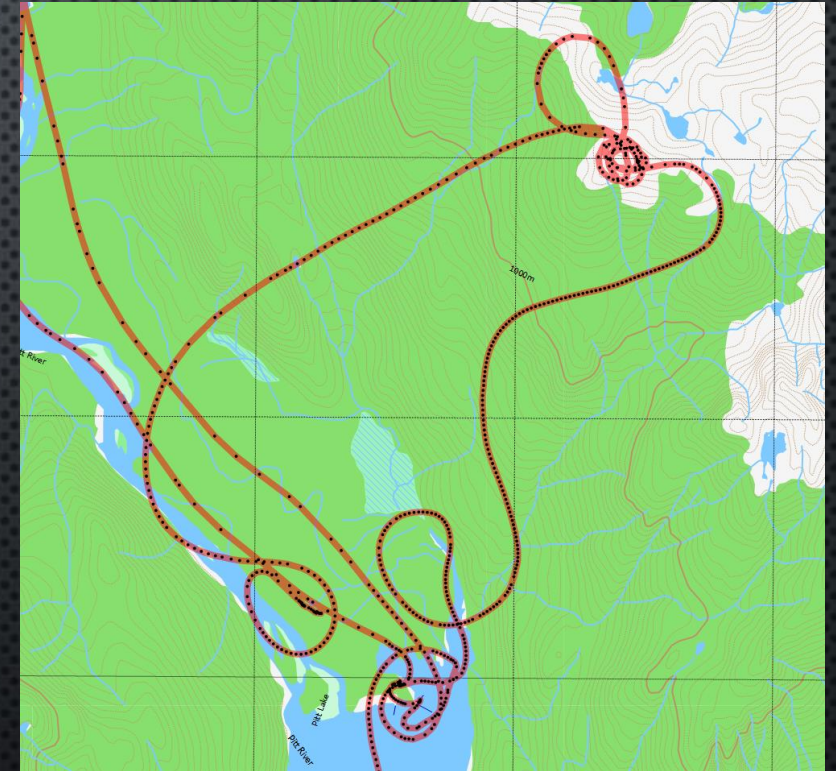
- AVAILABILITY / OPTIONS
- NIGHT FLIGHT & FLIR
- TECHNICAL MISSIONS
  - WHERE MANNED AIRCRAFT CAN'T GO
  - CANYON, CREVASSES, GULLIES
- POSSIBLY CHEAPER THAN MANNED AIRCRAFT





# WISH LIST

- NIGHT OPERATIONS
- BAD WEATHER / COLD WEATHER
- INTERCHANGEABLE PAYLOADS
- REAL-TIME HIGH RESOLUTION VIDEO
- REAL-TIME MAPPING / POSITION TRACKING
- INTEGRATION INTO SAR SYSTEMS
- PORTABLE / FIELD ASSEMBLY / DEPLOY





# WISH LIST

- RELAXED REGULATIONS AROUND
  - OPERATORS
  - LINE OF SIGHT
  - SFOC PROCESS





# MOVING FORWARD

- DETERMINE BEST PRACTISES AND SOG
- PROPOSAL FOR A PILOT PROJECT
- PARTNERS, FUNDING, ONGOING RESEARCH
  - HAVE TO BE WILLING TO GET A CALL AT 3AM





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