

# Revelstoke Caribou Rearing in the Wild Society 2018 Capture Summary

The intent of this document is to provide a summary of the 2018 capture activities for the Revelstoke Caribou Rearing in the Wild Society (RCRW).

To meet FOI requirements, the names of companies and personnel have been removed and generic titles in blue script have been added.

## Summary of key dates

- Capture Team Meeting: March 27, 2018, 1600-1800, FLNRO main boardroom, 1761 Big Eddy Road, Revelstoke.
- Capture Day 1: March 28, 2018, field capture operations 0910 to 1501.
- Capture Day 2: March 31, 2018, field capture operations 0810 to 1509.

## Capture Documents

All of the documents used in preparation and during the capture days can be found in the project google drive located at:

- “RCRW Operations & Governance/Operational and Site info/Capture and Monitoring Data/Capture Logistics and Prep 2018/Capture documents”.
- For the purposes of this document, this link will be referred to as “capture documents”.
- A complete listing of capture documents is found at the end of this document.

## Capture Day Support

- Caribou Capture Contractor
  - [Name of Helicopter Capture Contractor](#). Primary contact: [Pilot Name](#)
  - Capture Machine ([Pilot Name](#)):
    - Day 1 Hughes MD500D - call sign ([Helicopter 1 Call Sign](#))
    - Day 2 Hughes MD500D - call sign ([Helicopter 2 Call Sign](#))
  - Transport Machine A-Star AS350B3 – call sign ([Helicopter 3 Call Sign and Pilot Name](#))
  - Capture contracts for both Province of BC and RCRW is located in the capture documents.
- Avalanche Consultant
  - [Avalanche Consultant Name](#) – primary contact ([Name of Contact](#)).
  - ([Name of Contact](#)) – weather forecasts
  - ([Name of Contact](#)) – field work with capture crew and safe work procedures.
- First Aid Support – ETV and Crew
  - [First Aid Contractor Name](#)
  - [Name of First Aid Attendant](#) – level 3 first aid attendant both days.
  - Day 1: ETV and driver provided by BC Wildfire Management Branch

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- Day 2: ETV and driver provided by [Name of First Aid Contractor](#).
- Veterinary Support and ultra sound technical support
  - [Vet #1](#)
  - [Vet #2](#)
  - [Research Vet #1](#) – ultrasound
- Other Government, Business and People – various tasks
  - Parks Canada – Transport and pen team assistance, and equipment loans.
  - FLNRO – [Pen Manager](#), radio monitoring from Revelstoke office, and equipment loans.
  - [Name of Capture Team field lead](#) – Capture field team lead in the field.
  - [Names of Pen Assistance Team](#) – pen team assistance.
  - RCRW Pen shepherds [Name of Shepherd](#) (legacy knowledge) and [Name of Shepherd](#) (pen team assistance).
  - RCRW Personnel
    - Pen assistance from wildlife technicians [Name of Wildlife Technicians](#) as well as Board of Director member [Name of Board of Director member](#).
    - I/C assistance from [IC #2](#) and [IC #1](#).
    - [Name of Communications Contact](#) day 2 support for transport team and future communications products.
  - [Pen Accomodations Owner](#) – use of facility for the capture days and donations of time from [Names of Helpers](#).
  - [Helicopter Ski Company Lodge](#) – supply helicopter fuel for the capture helicopters.
  - Volunteers who made themselves available during the capture window for the capture team but were not needed due to capture timing.

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## Capture Cost Summary

The following Table summarizes Capture Costs for 2018.

Capture Component	Cost	Cost per Animal Captured
Provincial Contract with <a href="#">Helicopter Capture Contractor</a>	\$48,000.00	
RCRW Contract with <a href="#">Helicopter Capture Contractor</a>	\$ 7,234.26	
<b>Total Capture Contract Cost</b>	<b>\$55,234.26</b>	<b>\$2,761.71</b>
Capture Support Costs	\$27,147.86	
Veterinary Supply Costs	\$ 4,000.00	
AFSAR funded Costs	\$ 305.90	
<b>Total Other Capture Costs</b>	<b>\$31,453.76</b>	<b>\$1572.68</b>
<b>Total 2018 Capture Cost</b>	<b>\$86,688.02</b>	<b>\$4,334.40</b>

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## Capture Day 1: March 28, 2018

### Weather

Sky conditions at site:

- Sun and cloud.
- Flat light conditions above tree line.

Revelstoke airport conditions reported during capture window:

- Air temperature ranged from 6.8 C to 7.6 C.
- Wind conditions ranged from North 9 KPH to North 21 KPH

See capture documents for copy of the spot weather forecast for capture area provided by [Avalanche Consultant](#).

### Day 1 Capture Team:

[\[Picture of Capture Team\]](#)

### Day 1 Time Line

<b>Time</b>	<b>Remark</b>
0615	Pen and Transport teams meet outside Frontier Restaurant on Highway 23 North.
0625	Pen and Transport teams on the road to Maternity Pen. Personnel manifest crew found in capture documents.
0815	<ul style="list-style-type: none"> <li>• Capture helicopters landed at maternity pen and pen capture crew on site. Staff briefing, safety orientation, and set-up for capture, transport and pen teams.</li> <li>• Capture crews directed to focus on the southern waypoints P2, 964, and 961 first, then sequentially to the waypoints to the north closer to the pen.</li> </ul>
0910	Helicopters airborne from pen and Operations for the Day begin.
1027	Transport helicopter arrives at pen with caribou 1 and 2 from waypoint 963.
1202	Transport helicopter arrives at pen with caribou 3 and 4 from waypoint 961.
1336	Transport helicopter arrives at pen with caribou 5 and 6 from waypoint 959.
1340	I/C informed verbally from transport helicopter crew that <a href="#">Helicopter 1</a> is disabled and not able to fly due to rear rotor strike in the snow. Decision made to shut operations down for the day.
1433	Transport helicopter lands at pen with capture helicopter crew on board.
1501	Crew debriefing at maternity pen complete and all personnel enroute back to Revelstoke.

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## Capture Day 2: March 31, 2018

### Weather

Sky conditions at site:

- Sunny.
- Good lighting above tree line. No cloud.

Revelstoke airport conditions reported during capture window:

- Air temperature ranged from -1.1 C to 6.1 C.
- Wind conditions ranged from North East 36 KPH in the morning dropping to North East 3 KPH at the end of operations.
- The wind conditions at the maternity pen were similar to Revelstoke. Field capture crew reported light winds above tree line during the capture period.

No spot weather forecast was requested or provided for capture day 2. Weather forecasts were derived from Environment Canada and other on-line weather services.

### Day 2 Capture Team:

[\[Picture of Capture Team\]](#)

### Day 2 Time Line

<b>Time</b>	<b>Remark</b>
0530	Pen and Transport teams meet outside Frontier Restaurant on Highway 23 North.
0538	Pen and Transport teams enroute maternity pen. Personnel manifest crew found in capture documents.
0736	<ul style="list-style-type: none"><li>• Capture helicopter at North Bishoff Creek awaiting I/C permission to proceed with capture.</li><li>• Field capture crew getting ready for capture to bring animals directly to pen.</li></ul>
0805	<ul style="list-style-type: none"><li>• Pen and Transport teams at pen and ready to receive animals.</li><li>• Teams experienced difficulty getting across the lake to the pen due to high winds from the north and frozen cables on one of the transport boats.</li></ul>
0810	I/C notified field capture crews to begin capture operations for the day.
0858	Transport helicopter arrives at pen with caribou 7 and 8 from waypoint 960.
0938	Transport helicopter arrives at pen with caribou 9 and 10 from waypoint 951.
1040	Transport helicopter arrives at pen with caribou 11 and 12 from waypoint

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	951.
1208	Transport helicopter arrives at pen with caribou 13 and 14 from waypoint 957.
1253	Transport helicopter arrives at pen with caribou 15 and 16 from waypoint 956.
1256	Capture helicopter requests new capture instructions from I/C as all of the capture locations had been utilized.
1310	I/C instructed capture helicopter to proceed to waypoint 947 (Pettipiece Pass) to capture two caribou.
1315	Reconnaissance Helicopter Bell 206 call sign XXX, sent on a reconnaissance from pen to the east side of the lake Revelstoke Reservoir in the Nichol Creek, Goldstream, McCullough, French Creek and Bigmouth drainages to spot any potential caribou for capture.
1401	I/C instructed capture helicopter to capture final two caribou from waypoint 947.
1403	Reconnaissance helicopter XXX instructed to return to pen. No caribou for capture were spotted on the flight.
1413	Transport Helicopter arrives at pen with caribou 17 and 18 from waypoint 947.
1502	Transport Helicopter arrives at pen with caribou 19 and 20 from waypoint 947.
1508	Caribou capture operations complete.

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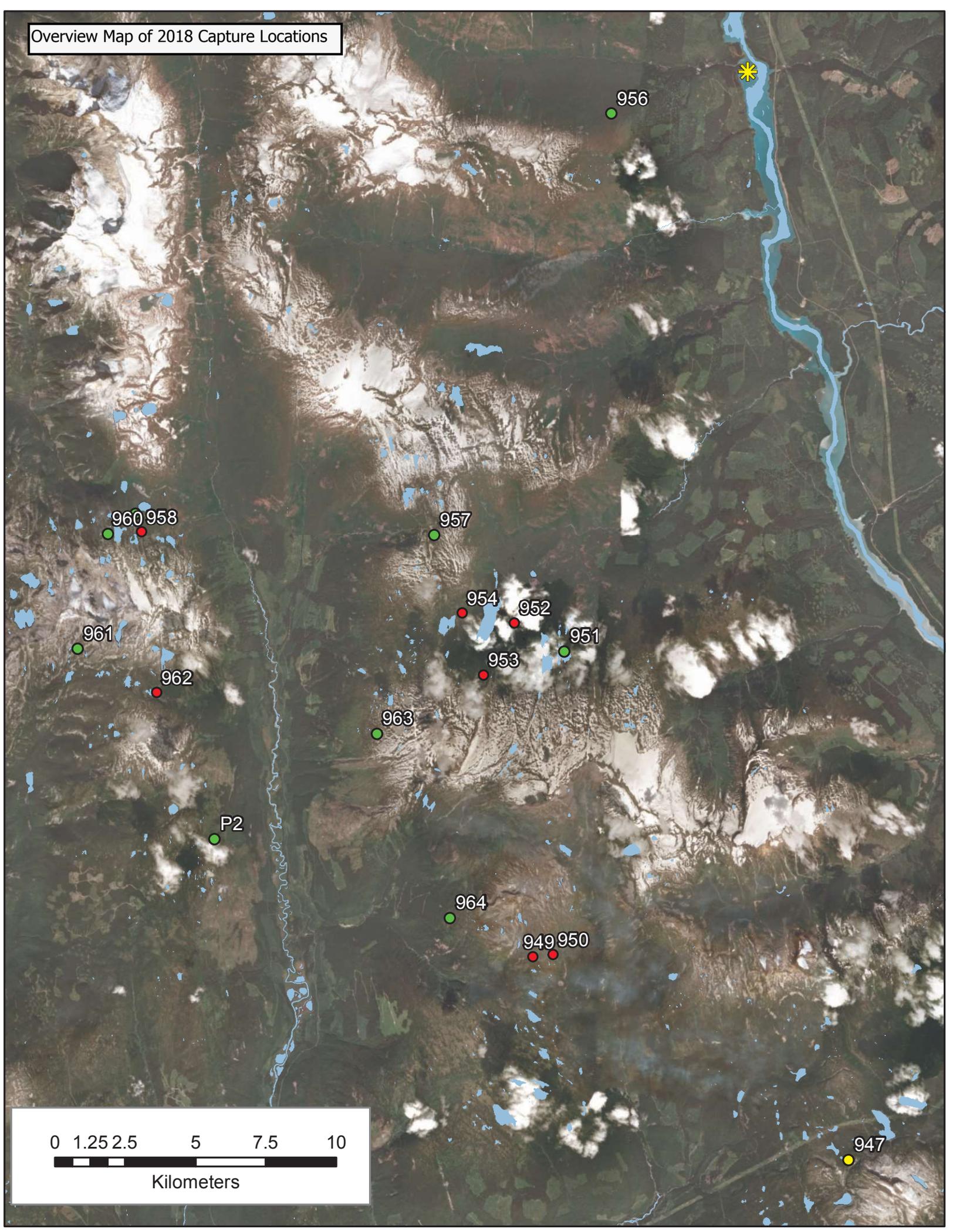
## Summary of Captured Caribou

Refer to capture documents for spreadsheet entitled “capture\_waypoints(2).csv” for greater detail regarding pre-capture caribou selection criteria prepared for field capture crew.

Refer to map following this table for mapped capture locations.

Caribou # from Pen Data Sheets	Capture Date dd/mm/ yr	Arrival Time at Pen Helipad	WLH ID#	Collar Number	Capture Location Waypoint	Location reported from Capture Helicopter Pilot (UTM Zone 11)	
						Easting	Northing
1	28/03/18	1027	17-10530	29096	963	371979	5711947
2	28/03/18	1027	17-10531	29102	963	371979	5711947
3	28/03/18	1202	17-10532	29101	961	361652	5713803
4	28/03/18	1202	17-10533	29092	961	361652	5713803
5	28/03/18	1336	17-10638	29083	959	362761	5717804
6	28/03/18	1336	17-10639	29099	959	362761	5717804
7	31/03/18	0858	17-10640	29090	960	361011	5718159
8	31/03/18	0858	17-10641	29094	960	361011	5718159
9	31/03/18	0938	17-10642	29091	951	377520	5713045
10	31/03/18	0938	17-10643	29103	951	377520	5713045
11	31/03/18	1040	17-10644	29085	951	377520	5713045
12	31/03/18	1040	17-10645	29082	951	377520	5713045
13	31/03/18	1208	17-10646	29100	957	374400	5717672
14	31/03/18	1208	17-10647	29104	957	374400	5717672
15	31/03/18	1253	17-10648	29098	956	376800	5733624
16	31/03/18	1253	17-10649	29086	956	376800	5733624
17	31/03/18	1413	17-10650	29097	947	389537	5696492
18	31/03/18	1413	17-10651	29095	947	389537	5696492
19	31/03/18	1502	17-10652	29089	947	389537	5696492
20	31/03/18	1502	17-10653	29088	947	389537	5696492

Overview Map of 2018 Capture Locations



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### Post Capture De-Briefing Points

A group de-briefing session was held at the maternity pen on March 31, 2018 immediately after the cessation of capture activities. Everyone involved with the capture was present and had an opportunity to voice their thoughts. Some comments were received by email in the days following the session.

Here is a categorized summary of the feedback from the crew:

### General

- Overwhelming feeling of the crew was that it was a successful couple of days. The mood was very positive and everyone worked well together.

- **Government** Crew feedback:

*“Overall, we were impressed with the level of organization and how smoothly everything went over the course of the couple of days we were out there. It's always cool to see ICS used for something other than fire, and everyone was patient and inclusive and helpful and fun”.*

- Feed back to **Helicopter Capture Contractor**:

*“Everything everybody had to say about you, your staff and your operations were all very positive. You instilled a level of calmness amongst all involved which resulted in a very positive confident environment which led to efficiencies and ultimately a safe working environment”.*

### Equipment

- The two new orange capture bags purchased from Wildlife Capture Equipment in Austin Texas worked very well from the perspective of all of the capture teams (field, transport, and pen). The general feeling was they were easy to apply and handle, and because they used a mesh material, they kept the animals cooler during transport. It would definitely be an asset to future capture operations to invest in four more of these bags. The overwhelming sentiment was to retire the older green transport bags in favour of the new ones.
- Feedback from **Name** on the capture bags:

*“The capture bags this year with all the quick snaps have made bagging the caribou much easier and quicker. I like the snaps around the neck as the ropes tend to want to tighten in places we don't want tight.”*

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### Personnel

- The number of people assigned to the field capture and the maternity pen teams was good. The transport team could use one more person to hold the head of the caribou as it comes out of the transport helicopter.
- The transport team needs: snowmobile driver; skimmer attendant; five people to assist in the caribou lift from the helicopter to the skimmer (two to enter the helicopter after it lands, two beside the helicopter to assist in move of the caribou out of the helicopter, and one person to control and hold the head of the caribou on the move).
- Feed back on helicopter briefing from the [Government](#) crew members on the Transport Team:

*“The one thing that felt overlooked was the helicopter briefing on the first day (which didn't occur at all on day two, despite a couple of new bodies around the place). Recognizing that not everyone was meant to have a role directly attached to a helicopter or to animal moves in and out of one, as folks that work very regularly with aircraft, firefighters are always accustomed to getting a full pilot briefing. If there had been a first aid incident, any of us might have been called on to help transport a patient into the aircraft, and it's nice to err on the side of caution and education when you have a bunch of people not accustomed to working with aircraft. The consequences of not understanding tail rotor danger, correct door operation or approach/retreat from the machine are really high, and for the ten or fifteen minutes it takes to keep everyone on site extra safe, it's worth it. There was some conversation, but it was disorganized, and not everyone participated or caught all of the details. More formal would have been better.”*

### Caribou Condition

- The veterinarians reported that caribou internal temperatures were all excellent for both capture days.
- [Vet #1](#) and [Vet #2](#) were very happy with the capture work and the samples collected.
- [Research Vet #1](#) noted that the last 4 animals from Pettipiece Pass had much better body fat than the previous 16 animals. More detail to come on this with Research [Vet #1's](#) full report.

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### Boat Transport to the Pen

- The FLNRO boat had frozen motor linkage cables in the morning which caused delays in getting people across the lake. No real solution to the problem but something to keep in mind as it occurred last year also. [Name](#) was able to use his boat to move the majority of people across the lake. Best solution is to have a solid back-up plan for crew transport.
- One email comment post capture was received regarding the lack of a boat safety briefing on both capture days, specifically that there was no mention of safety or pfd's on board either the FLNRO or [[Contractor](#)] boats. This was an important point that was missed on both capture days and was likely an unmentioned concern of many especially given the rough lake conditions on capture day 2. Best solution to this is to have a boat safety briefing included in the pre-capture meeting and a brief recap by the boat operator during transport.

### Lunches

- Sandwich formula of 2.5 sandwiches each for field capture team and 1.5 sandwiches each for pen crews seemed to be about right.
- Cookie formula of 3 smaller cookies each was too small. Day 2 added 6 dozen cookies in clamshells from [Store Name](#) which seemed to agree with everyone (they all got eaten)
- 1 larger bottle of gator aid for each person plus 3-500ml bottles of water each was more than adequate.
- Fruit – don't bother with bananas. Nobody touched them. Oranges were not much of a hit but apples were heavily consumed.

### Photos

- Everyone participating was asked not to post photos of the capture on social media unless the material had been viewed by the RCRW communications committee and consent was given to share the photo material.
- Everyone was encouraged to share their photos with RCRW.

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## Capture Documents Available on Project Google Drive

### Preparations

- Sample of Long Range Weather Forecast
- Final Capture Team Manual
- Safe Work Procedures in Avalanche Terrain
- Equipment Checklist for Pen Processing Team
- 2017 Capture Checklist from Kelsey Furk
- Capture Task Preparation Spreadsheet
- Capture contract between RCRW and Contractor
- Capture contract between Province of BC and Contractor
- Certificates of Insurance for aircraft used during capture

### Capture Meeting

- Capture Meeting Agenda
- Capture Waypoints and overview maps/photos for Capture Day

### Capture Day

- Blank Radio Log Document
- Radio Logs from both Capture Days
- Actual capture locations from capture crew
- Working copy of Emergency Contacts Information used by I/C
- Actual Capture Team roster for both capture days