



Field report from the journey to North-East Greenland 2010



Someone was all ears!

Hectic human activity does not happen every day by the little Namdalshytte in Kong Oscar Fjord; but the hut is actually one of the eight old trappers' huts that were repaired by the NANOK-teams in the summer of 2010. Read more of this in the report.

20th field season

Introduction

Nordøstgrønlandsk Kompagni NANOK achieved its objective and completed 20th field season as planned. During the summer our two field teams have renovated yet another eight old trappers' huts and thereby we are approximating a total of 40 renovated huts and stations in North-East Greenland since the modest start in 1991. Of this we are very happy and a bit proud.

We are also very happy to experience that the huts we are renovating are utilized. This is the best way to preserve them.

Unfortunately for many of the huts that have not yet been repaired, it is their last chance. The rough weather is wearing the huts out and if nothing is done to preserve them, most of them will have passed the limit for renovation for the foreseeable future. Therefore NANOK is naturally continuing its work unabated. It is urgent.

We are very grateful for all the encouragement and recognition we receive from many sides, both public authorities and private people. This year – for example – we have received a cooperation declaration/agreement from the Greenland National Museum and Archives (see the agreement/declaration later in this report). This has contributed to that NANOK as of 2010 no longer is classified as a "Sport Expedition" but from now on instead is categorised as a "Work Expedition".

It is one of NANOK's fundamental principles that the huts can be used freely and for free. For the time being we also readily give a helping hand to people who

need it for example at the ships call – without charge. This in spite of that we have had to state that the downturn has made its way to North-East Greenland. One can hope that the imposed charges are able to cover a part of the appertaining administration and bureaucracy.

Nanok wishes first and foremost to express our thanks and gratitude to our sponsor - Aage V. Jensens Fonde – for their never failing trust and support that make it possible for us to plan for several years and carry out our work with great efficiency and safety.

This year from the MarinBasis team we received a very special help with lay out of materials with M/B "Aage V. Jensen" in the Daneborg area. We thank you very much for this help.

Also a warm-hearted thanks to the Siriusmen at Daneborg and Ella Ø who once again showed us great helpfulness and hospitality.

Nanok forwards our thanks to the many private individuals, who each and every one have supported us and shown positive interest for our work.

Finally warm thanks to our many competent collaborators, to expeditions and to authorities, who with their positive contributions have made our work possible.

On behalf of Nanok

Peter Schmidt Mikkelsen

This field report is also available in English and Danish at: www.xsirius.dk/nanok.html

Field report for the South team 2010

Tasks

The South team had the following tasks:

- To renovate 3-5 huts in South region: e.g. Villa [117], Jostein [205], Mineralbukta [238], Svedenborg [241], Namdalshytten [305], Rendalshytten [309], Brøggers hytte [317], Renbugthytten [325],
- To inspect and maintain M/B "Agsut" and inspect NANOKs depots in South region (Ella Ø / Mestersvig / Nyhavn),
- To receive goods for NANOK on Ella Ø / Mestersvig / Nyhavn,
- To count NANOK depot on Ella Ø / Mestersvig / Nyhavn,
- To prepare for NANOK expedition 2011.

South team

Aage Sandholdt (former member of Sirius 72), John Wulff (former member of Sirius 75), Claus "Tavse" Birkebøll (former member of Sirius 73)

Summary

The asked task was accomplished. We had four trappers' huts thoroughly restored. Two near Ella Ø and two far in Kejser Franz Joseph Fjord.

The South team sailed a total of 350 km with "Agsut".

We travelled with the North team Monday 19th July from Kastrup. After a couple of hours of flying we arrived in Keflavik on



It was some training to get to the hut in Lumskebugten as there was 550 metres from anchor site to the hut.

Iceland. Later we flew from Reykjavik to Akureyri to spend the night. The following day we continued in Dash 8 to Constable Pynt, where we were delayed for several hours due to a strong wind on the coast. During the evening we continued to Mestersvig and further to Ella Ø where we landed at 7 pm.

At departure August 10th we were picked up by the Twin Otter on Ella Ø and arrived in Kastrup the following morning.

Preparations for sailing

After we accommodating in "Ørnereden" and agreed cooperation with Sirius we could



Mineralbukta [238] in Lumskebugten before and after renovation.



Rendalshytten [367-2] before and during renovation.

prepare "Agsut" for the first sailing. The tarpaulin was released from "Agsut" and it was in good shape on the trolley. The boat engine and the out boat motor was examined and the oil was changed. The mast was installed/attached before we placed planks in the gravel and drove the trolley in place at the first coming ebb tide. "Agsut" fled fine at the next flood tide and it was sailed to the landing stage. Aage was in his home ground as he has dealt with boat motors for many years. The float and the out boat motor was installed and then we were ready to load "Agsut".

Test ride to Lumskebugten

We wanted to use Mineralbukta [238] as a test ride both for sailing with "Agsut" and for renovation of the hut so we could get a feeling of the task. Now there was loaded with supplies and hut materiel. Oven box, inventory box and a lot of planks and a lot of rolls of roofing felt came onboard. We started in very nice weather and set out for

Lumskebugten. On port side we had a great view of Bastionen. It was some training to get to the hut as it was situated 550 metres from the anchor site. We had to drag the rubber dinghy up though the river with all the goods that we needed for restoration and the stream was strong at times. The hut was very damaged so we decided to remove all roofing felt and two of the walls was replaced with new planks. The inner roofing felt was put on with nails, and the outer roofing felt was burnt on the entire hut. The window was repaired and a new shutter was installed. After two days and a sand storm that had "Agsut" bobbing heavily on the waves, we sailed back to Ella Ø with a positive outcome.

To Rendalshytten [309] at the inner of Kejsers Franz Joseph Fjord

The next objectives were Rendalshytten (Paradisidalen) in Kjerulf Fjord and Renbugthytten in Isfjord. We fine tuned out equipment and a lot of roofing felt, planks



Rendalshytten [367-2] during and after renovation.

and laths were brought onboard. John was in charge of the supplies so we were in no distress for the next couple of days. The weather was still incredibly nice, but as we set out for Skildvagten there were strong waves from Sofia Sund and “Agsut” began to roll heavily in the sea. As soon as we got into Antarctic Sund the waves were more calm and we now had the wind from the rear. After 10 hours of sailing we reached the Rendalshytten at 1 am. Before all equipment was brought ashore it was 3 am and we could turn in. The next morning the weather was quiet, cloudless and great ice mountains drifted back and forth in the river. The hut was not that worn, but there was only 5 metres to the cliff and the great swells had taken much of the coast.

We removed all the roofing felt and replaced the planks several places on the hut where the wood was very worn out. An old Sirius window had to face a comprehensive reparation. It was so warm that we had to work without our shirts on. After three days there was a nice newly renovated hut with the nicest name plate installed on the wall.

Renbugthytten [325] in Isfjord

We set out for Isfjord in the nicest weather and passed many great ice mountains on the way. We arrived during the afternoon at Renbugthytten. Discovered wolf tracks and many musk ox trails in the sand so there had been some drama at the place. We removed all felt and extricated embankment. Stabilized the hut with laths as it leaned a lot to one side and changed 24 planks on the walls. After the hut was felted with inner

and outer roofing felt, we installed a new door. We finished with a hut plate and re-put the reindeer antlers above the window on the end wall to the south.

The next morning Tuesday August 3rd we rose early and packed the camp. We started “Agsut” in the most wonderful weather and set out for Antarctic Sund while having breakfast.

Namdalshytten [305] by Karl Jakobsens Bugt

Our next objective was Namdalshytten (Fladebugt) which we wanted to visit on the way home to Ella Ø to get an overview of what we needed to bring to repair the hut. It looked very worn out and needed a refurbishment. We arrived at Ella Ø at 6 pm and was immediately invited to dinner by the Sirius-men. The next day we prepared for the last sailing and meanwhile the supply ship “Arina Arctica” from Royal Arctic Line arrived. It was only to stay a few hours on Ella Ø as it was only Sirius that needed to change one of their boats.

The next morning at 6 we sailed out of Solitærbugt and set out for Karl Jakobsen Bugt 22 km away. At 8 am we anchored and the dinghy sailed pendulum in to shore. This was the hut that would be the easiest to fix. The terrain was flat and there was not far to the water. We camped and we were now ready for the last hut. There was a lot of driftwood in and around the hut so we carefully tidied the place up. The oven was very corroded and heavily in decay, so we took it outside. The roofing felt was removed and the northern side of the hut had



Namdalshytten [305] before and after renovation.

new planks and it was supported with laths. The southern wall was rebuilt recycling the existing planks after the bad parts of the wood had been cut off. The bunk was rebuilt as the former almost only consisted of driftwood. John was our steadfast hut inventory-man and he had the hut furnished with oven, chimney and re-established the coal box etc. Inner roofing felt was carefully nailed on and we had the gas burner working for the last layer of outer roofing felt. Two long days of work later we were finished with Namdalshytten and it was reconstructed as in its heyday.

Preparation for winter and bear visit on Ella Ø

We came back to Ella Ø in the evening and after having emptied “Agsut” for equipment and personal gear, we were invited to dinner and a good time with Sirius at Pynten. “Agsut” was cleaned and the motors inspected for the winter. Later in the evening

“Agsut” was pulled ashore. The next morning the day started with a surprise. While we were having breakfast Aage and I suddenly saw a young polar bear run down through the station with two sledge dogs in its tail. The station was alerted but the dogs chased it out in to the water and it swan away from Ella Ø. John and I was in charge of the counting in the 12-man barracks and the machine shack. Monday August 9th was the worst possible day for putting the tarpaulin on “Agsut”. About 11 am suddenly started a storm with a brisk to severe wind from North. The landing stage tore itself away and we worked bravely with the tarpaulins but at last got it under control. The next day we were picked up in Twin Otter from Mestersvig and we were on our way home.

The South team would here like thank Sirius for the very great helpfulness and good cooperation on Ella Ø.

Aage, John and Tavse



NANOK South team 2010. From the left: Claus Birkbøll, John Wulff, Aage Sandholdt.



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Grønlands Nationalmuseum og Arkiv
Postboks 145, DK-3900 Nuuk

Nuuk, 4. marts 2010

Til rette vedkommende

Vedrørende samarbejde mellem Grønlands Nationalmuseum og Arkiv og NANOK

Der er i Nordøstgrønland mere end 300 lokaliteter, hvor der fortsat findes bygninger (hytter) eller rester af sådanne fra fangstmandsperioden (1908-60) – en særegen og betydelig periode af Grønlands historie. En stor del af hytterne, som findes i Nationalparken, er fredede og det påhviler ejeren, Grønlands Selvstyre, at vedligeholde dem. Dette er i praksis en meget vanskelig opgave.

I 2006 udarbejdede en arbejdsgruppe under Direktoratet for Miljø og Natur og bl.a. med deltagelse af Grønlands Nationalmuseum og Arkiv en klassificering af bygningerne. Ved klassificering blev det for eksempel klart, at en betydelig del af de gamle hytter ønskes bevaret og vedligeholdt. Ikke blot ud fra et kulturhistorisk perspektiv; men også til fortsat praktisk nytte for såvel forskningen og turismen i området.

Imidlertid har non-profit organisationen Nordøstgrønlandsk Kompagni NANOK – sponsoreret af Aage V. Jensens Fonde - gennem de seneste tyve år gennemført såvel dokumentation og renovering af de gamle hytter på en konsekvent, respektfuld og dygtig måde. Et arbejde, der har en særlig værdi for det grønlandske samfund. NANOK's arbejde er siden starten sket i dialog og samarbejde med Grønlands Nationalmuseum og Arkiv, som kontinuerligt har modtaget rapporter og omfattende registreringsmateriale om NANOK's arbejde og hytternes tilstand.

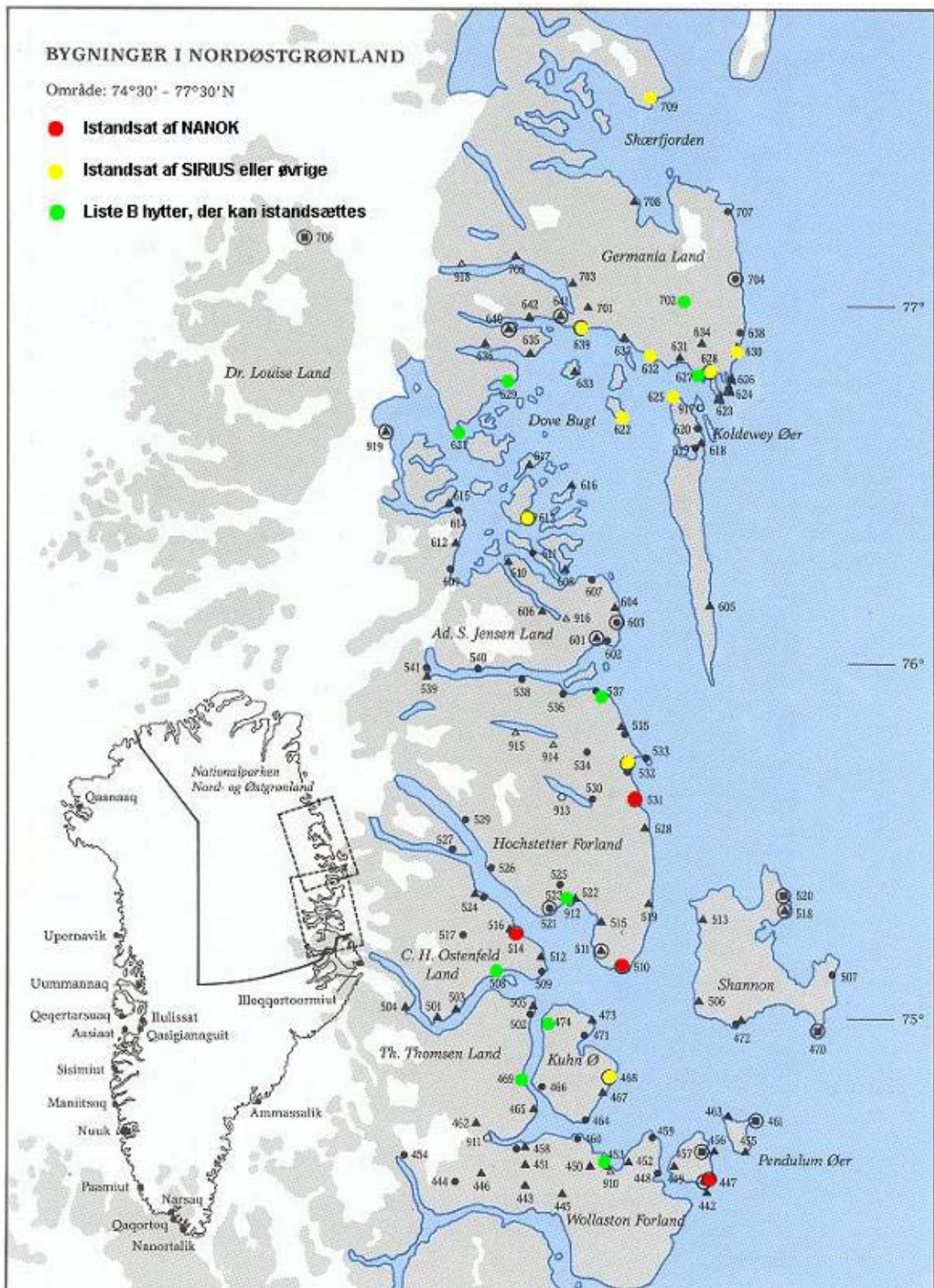
I erkendelse af ovenstående skal det derfor hermed attesteres, at Nordøstgrønlandsk Kompagni NANOK samarbejder med Grønlands Nationalmuseum og Arkiv og i realiteten udfører betydningsfuldt arbejde.

Grønlands Nationalmuseum og Arkiv skal derfor anmode andre relevante myndigheder om at tilgodese delte i forbindelse med klassificering af NANOK's adgang, arbejde og ophold i Nordøstgrønland.

Med venlig hilsen

Pauline K. Knudsen
Souschef

Grønlands Nationalmuseum og Arkiv udstedte i 2010 en erklæring vedrørende samarbejde med Nordøstgrønlandsk Kompagni Nanok.

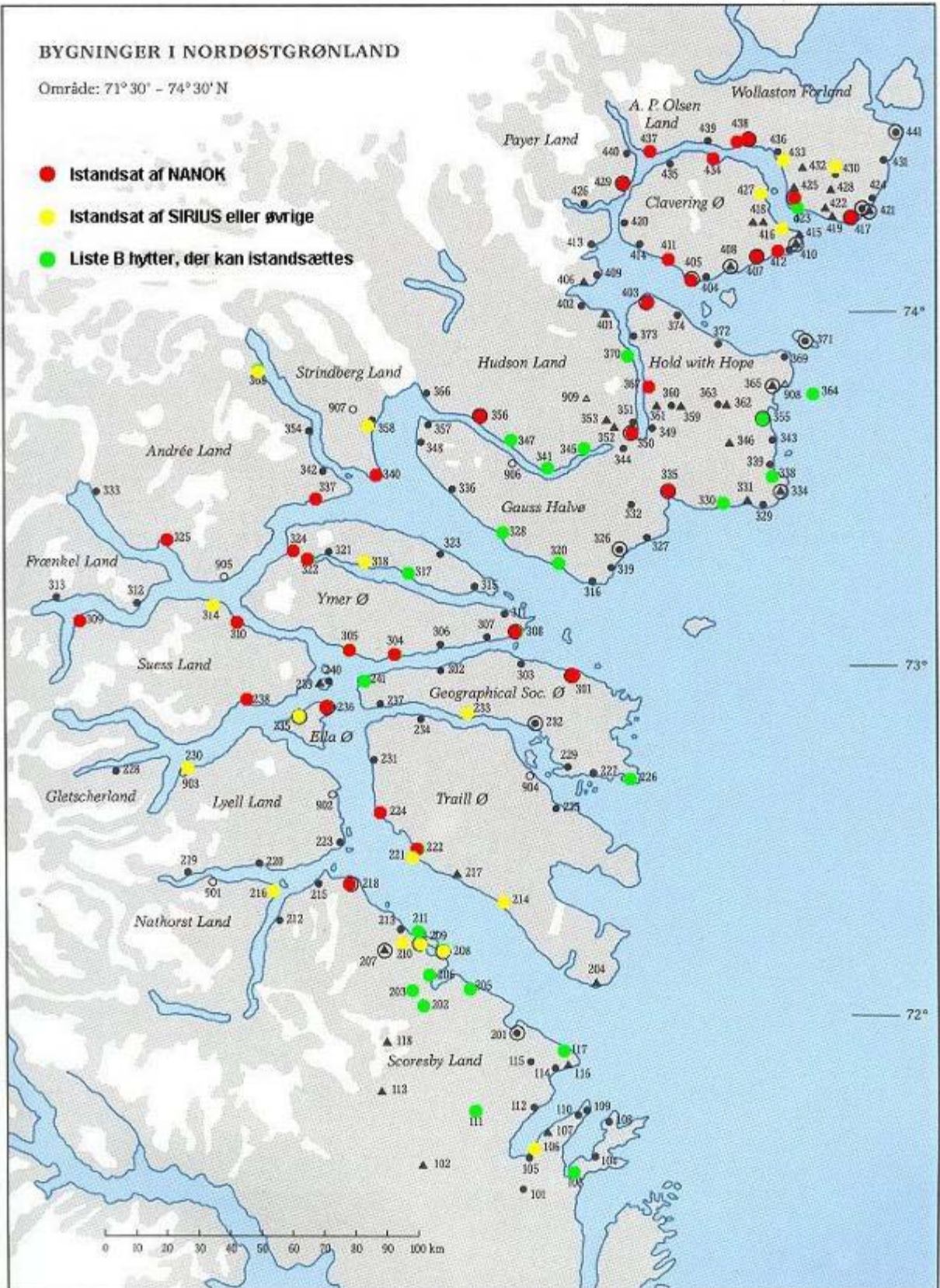


The maps on this and opposite pages show the maintenance status for the old huts, houses and stations in North-East Greenland. The sites marked red or yellow can be expected to be in reasonably usable condition. Other sites, however, can not be expected to be usable. Sites marked green are other huts with the classification B, which Nanok may renovate and maintain in the coming years.

BYGNINGER I NORDØSTGRØNLAND

Område: 71° 30' - 74° 30' N

- Istandsæt af NANOK
- Istandsæt af SIRIUS eller øvrige
- Liste B hytter, der kan istandsættes



Field report for North team 2010

Tasks

The North team had the following tasks:

- a) To renovate 3 - 5 huts in the North region / Daneborg area: e.g. Geisha [330], Mellehuset [367-2], Krogness [403], Norma hytta [411-2], Dahl Skær hytten [412],
- b) To inspect and maintain NANOK's depot in the North region (Sandodden / Daneborg),
- c) To receive goods for NANOK at Daneborg,
- d) To count NANOK depot in Sandodden / Daneborg,
- e) To prepare for NANOK expedition 2011.

North team

Anders Ibsen (former member of Sirius 2000-02), Per Ibsen (Anders' father), Torben Krogh Johansen (Anders' officer colleague).

Opening

NANOK North team got off to a good start. We left Copenhagen July 19th and arrived at Daneborg via Iceland, Constable Pynt, Mestersvig and Ella Ø July 20th. This year the North team's task was to renovate trappers' huts on the south side of Clavering Ø, the North side of Hold with Hope and in Loch Fyne.

After three weeks in the Daneborg area we have renovated four huts: Mellehuset [367-2], Krogness [403], Norma hytta [411-2] and Dahl Skær hytten [412]. Furthermore we have helped Sirius during the ships call, made a new exhibition window for the museum sledges on Daneborg and put up name plates and done minor repairing on Leirvågen [434] and Bjørnnesstua [437]. We have sailed over 400 km in the Humber dinghy and 300 km with the boat "Aage V. Jensen".

Laying out materials with "Aage V. Jensen"

After arriving on Daneborg we started preparing equipment and materials. This year we had got the opportunity to lay out materials with "Aage V. Jensen" and on this



Unloading materials by Dahl Skær. We had great use from material transport with "Aage V. Jensen".

occasion we had great help from Kunuk Lennert from the Greenland Climate Research Centre. During the first days we completed two trips to respectively Mellehuset [367-2], Krogness [403] and Norma hytta [411-2] with 1,5 ton of materials and 300 litres of gasoline for the dinghy. Practically this was a huge help because during the actual work with the huts we could make do with transporting our own equipment in the dinghy. All materials necessary was already prepared when we arrived to the huts.

Mellehuset in Loch Fyne [367-2]

Again this year there was a good deal of drift ice South of Clavering Ø and in Gael Hamkes bay. But it did not cause us any major problems and we started giving Mellehuset in Loch Fyne an overhaul. There was not much left of the hut besides the carcass and we installed a new door, window and oven and gave it a round of felt. Mellehuset is founded on rock ground and



Mellemhuset [367-2] in Loch Fyne before and after renovation.

therefore there was almost no rot in the bottom of the hut, which we otherwise have experienced a couple of times earlier renovating huts in auspices. The two members who had not been participating in NANOK earlier learned a new word: "Carry-mik" where they had the opportunity to carry different materials like gas bottles and roofing felt 20 metres up a steep slope and 100 metres inland. An experience they will remember with joy and which was repeated several times during the trip to help the learning. After having prepared Mellemhuset we set off for the Loch Fyne station [350], where we had a rest day.

Krogness [403]

Afterward the trip went to the Krogness station [403] also known as Kap Stosch hytten by the eastern estuary of Loch Fyne. We had a great deal of extra materials from the Mellemhuset and the average speed of the dinghy fell from approx. 20 km/hour to approx. 7 km/hour up through the Loch Fyne river. As it came to show Gael Hamkes bay without drift ice is a relatively wind-swept place where there almost constantly are waves from different directions.

There are two huts on Kap Stosch. The old station hut and the supply hut which Sirius also uses. It would take about a week to



Mellemhuset [367-2] during renovation. From left Torben Krogh Johansen and Per Ibsen.



Krogness [403] before and after renovation. Per Ibsen on picture to the right.

renovate the station hut so after a phone call to Peter Schmidt Mikkelsen we agreed only to give the old supply hut an overhaul. It had been felted in 2003, so it got a new oven, a coal box and some paint inside and outside and a few minor repairs.

Norma hytta [411-2]

We had now so much extra materiel in terms of roofing felt and planks that vi decided to make a depot for materials on Eskimonæs [405], where we picked up the remaining pieces. We made a temporary base on Eskimonæs and from here we sailed to Norma hytta [411-2], which is approx. 15 km west of Eskimonæs on the south side of Clavering.

Norma hytta was upon arrival relatively damaged. We removed the rotten floor, scaffolded the hut which was very unsteady and renovated door and window. Norma hytten may have one of North-East Greenland's smallest windows and we were

in agreement to keep the window even though it does not let much light into the hut according to modern standards.

The ships call at Daneborg

Having felted and prepared Norma hytta we now spend a few days sailing the extra material from Eskimonæs to Dahl Skær hytten [412], which was the last hut to be renovated. Before beginning the work on Dahl Skær hytten the trip went past Daneborg, where the ship had reported its arrival six days earlier than expected. Here we received the goods for NANOK's planned renovation of Myggbukta [335] in 2011, which we packed so it hopefully will be transported there during the Autumn. Furthermore we helped Sirius emptying their containers for supply and wood. The ships call itself goes incredibly swiftly after Royal Arctic Line went from piece goods to containers, which are transported ashore in trucks.



Norma hytta [411-2] on the south side of Clavering Ø before and after renovation.



Left and middle: Interior of Norma hytta [411-2] before and after renovation. Right: Anders Ibsen putting on roofing felt.

During the ships call a polar bear was shot in self defence by Kap Breusing. The bear had attacked an archaeologist and had bit him in arms and leg. It was a small two-year old bear and we participated in cutting it up and prepare the fur. Overall there were a lot of bears in the area around Daneborg. Besides the bear that was shot by Kap Breusing another was seen swimming pass Daneborg, yet another on Sandøen and a mother bear with two cubs by the trappers' station by Knudshoved [355].

Dahl Skær hytten [412]

After skibsmik we again had help from the MarinBasis crew at Daneborg for sailing materials out with "Aage V. Jensen". We needed an additional 50 planks and 12 laths to renovate Dahl Skær hytten [412]. Furthermore we had the company of an

American expedition artist, who painted watercolours of the hut and other motifs. We are really looking forward to see the results in the book she is publishing this Autumn; especially our oldest NANOK'er Per Ibsen was successfully used as a model on several occasions because he was considered having the most authentic trapper look and – appearance.

The Dahl Skær hytten [412] itself was our test piece with the amount of three whole days of work. It is built over two times. First time in 1948 by the Norwegian trappers Ivar Ytreland and Odd Lindhjem and since then Sirius has made a annexe of the house in the 1970ies. The hut was characterized by recently having had a bear visit on several occasions. There were cans with bite marks scattered all over the area. Additionally it smelled like a family of foxes had been



Dahl Skær hytten [412] before and during renovation. A new floor was put on the existing floor in the hut.



Left: The interior of Dahl Skær hytten[412] after the renovation. Right: NANOK North team 2010 in front of the hut. From the left: Per Ibsen, Anders Ibsen, Torben Krogh Johansen.

living nicely in shelter from the winter and therefore we started our work scraping a good deal of dirt off the floor. We put a new floor and supports for the ceiling, in addition we renovated the bunks, installed a new coal oven, built a coal box, made a new window and put new hinges on the door. The work was finished with a new round of felt.

Closing

Back at Daneborg we just had the to make a new exhibition window for the museum dog sledges which now are sat up on two stands by the “Karina” museum so they are not easily rotten or run over. Furthermore we also had the time to put up name plates and make minor repairs on the huts Leirvågen [434] and Bjørnnesstua [437] in

Tyrolerfjord. During the three weeks we have had sunshine and clear skies and we have only had foggy weather a few times. It has been quite windy and combined with the lack of ice it has occasionally resulted in big waves.

Finally we would like to thank all we have met on our path and have shown interest in our work. A special thanks to Sirius Daneborg for great help and good times together, as well as the great support we have received from the MarinBasis crew from the climate Research Centre in Greenland and from DMU. We hope that all of you in the future will enjoy the work of NANOK.

Anders, Per and Torben



NANOK-team 2010. In the back from the left: Aage Sandholdt, Claus Birkbøll, Torben Krogh Johansen, Per Ibsen, John Wulff. In front: Anders Ibsen.

On NANOK

Nordøstgrønlandsk Kompagni NANOK (NANOK) is a private, non-profit organisation founded in 1992 upon the former *Østgrønlandsk Fangstkompani NANOK A/S*, founded in 1929.

The aim of NANOK is a.o. to contribute to spreading knowledge of North-East Greenland and its cultural history and to contribute in securing the cultural monuments and buildings in the area.

NANOK consists of a management of seven persons. These are Peter Schmidt Mikkelsen (dir.), Søren Andersen, Jens Erik Schultz, Tommy Pedersen, Palle V. Norit, Søren Rysgaard and Fritz Ploug Nielsen. Besides the management a number of individual persons – "NANOK'ers" – participate actively in NANOK's projects. All work in NANOK is voluntary and unpaid.

Each summer NANOK sends an expedition of typically 5-10 persons divided on 2-3 teams to work in North-East Greenland for 3 to 5 weeks. Result of this work is documented and published in a field report. The expedition participants are chosen by the management. In the years 1991-2009 a total of 114 NANOK'ers have been sent out to North- East Greenland.

In order to perform its tasks NANOK controls a considerable amount of expedition equipment; however NANOK possesses no property in Greenland.

NANOK's projects are financed by the Aage V. Jensens Fonde. The Royal Arctic Line sponsors NANOK's transport of goods. The organisation is furthermore supported by a number of private contributors. NANOK's many, good partners are a.o. Air Greenland, Danmarks Miljøundersøgelser, Forsknings- og Innovationsstyrelsen, Forsvarets Vagt Mestersvig, Grønlands Selvstyre, Grønlands Nationalmuseum & Arkiv, Grønlands Naturinstitut, Logistikcenter Grønland, NANU-travel, Norlandair, POLOG, Slædepatruljen Sirius.

Since 1991 NANOK has repaired and maintained approx. 30 cultural historic buildings and has for this effort gained considerable recognition from a.o. The Greenland Home Rule and The Greenland National Museum & Archive.

Encouraged by The Greenland Home Rule NANOK in the years 2003-2007 has worked out a new, unique structural survey of all cultural historical cabins and stations in North-East Greenland. The records are available free of charge for The Greenland National Museum & Archive in Nuuk.

In the summer 2007 NANOK has – with the approval of The Greenland Home Rule – resumed the restoration of huts in North-East Greenland.



List of North-East Greenlandic stations and huts renovated by NANOK 1991 - 2010:

No	Name	Restored year	No	Name	Restored year
201	Antarctichavn	2001 (smashed 2002)	356	Hoelsbu	1999, 2000, 2007
218	Kap Peterséns	1998	367-2	Mellemhuset	2010
224-2	Kongeborgen	2001	403	Krogness	2010
222	Holm Bugt hytten	2001	405	Eskimonæs	1998
236	Maristua	2008	407	Elvsborg	2007-2008
238	Mineralbukta	2010	411-2	Norma hytta	2010
301	Laplace	2009	412	Dahl Skær hytten	2010
304	Arentz hytten	2008	417	Kap Herschell	2002
305	Namdalshytten	2010	425	Sandodden/Karina	1994-2000, 2007, 2009
308	Kap Humboldt	1997	429	Moskusheimen	1994
308	Bjørnheimen	2008	434	Leirvågen	2008
309	Rendalshytten	2010	438-2	Zackenbergt	1991, 1992
322	Noa Sø hytten	2008	438-4	Fiskerhytten	2008
324	Varghytten	2002, 2007	437	Bjørnnesstua	2008
325	Renbugthytten	2010	447	Germaniahavn	1999
335	Myggbukta	1999, 2007	510	Hochstetter	1996, 1998
337	Ragnhilds-hytten	2008	514	Ny Jonsbu	1995
340	Kap Ovíbos hytten	2000, 2007	531	Ottostrand	2009
350	Loch Fyne	1993, 2007	---	Kap Moltke /Brønlundhus	2001

Source regarding hut numbers and names: Peter Schmidt Mikkelsen: *North-East Greenland 1908-60 The Trapper Era*. The Scott Polar Research Institute (SPRI), University of Cambridge (2008).

