

Skógvatn - ForStreams

7. general meeting 20. of March 2009

Attending: Bjarni Diðrik Sigurðsson (chair), Helena Marta Stefánsdóttir (secretary), Jón S. Ólafsson, Gísli Már Gíslason, Edda Oddsdóttir, Gintare Medelyte, Berglind Orradóttir, Sigurður Guðjónsson, Guðmundur Halldórsson, Brita Berglund, Friðþjófur Árnason.

Excused:

Brynhildur Bjarnadóttir, Hreinn Óskarsson, Hlynur Óskarsson, Franklín Georgsson and Nikolai Friberg

The meeting started 10:01

Agenda:

Open;

1. Minutes of last meeting read and formally accepted with minor changes and comments
2. Main happenings in 2008-2009 (Everybody)
3. Where are we compared to the project plan (BDS)
4. Financial status (BDS)
5. What is left to do – and how are we going to finish it (Everybody)
6. Project plan for 2009 finalized and accepted (Everybody)
7. Mini-conference

Bjarni recalled that one participant, Freysteinn Sigurðsson, had passed away since last project meeting. This is a great loss to the project and we miss our good friend and mentor! Bjarni suggested that the ForStreams project should be dedicated to him, and we should remember him each time we present something from the project; and use the phrase “*in memorium of Freysteinn Sigurðsson*” when we write about the project. This was accepted by all participants.

1. Minutes of last meeting reviewed and accepted:

Remember to send Bjarni a e-mails containing information about all presentations that use data from ForStreams or mention the project in some way. This includes articles, book chapters, reports, newspaper items, oral presentations, posters, etc. Bjarni maintains a database where all these “products” from the project are listed.

Minutes of last meeting accepted.

2. Main new happenings in 2008-2009

- Bjarni: We lost our funding from Hekluskógar (1000 þ kr). We renewed the applications to CAR-ES (500 þ kr), UOOR (6000 þ kr) and Framleiðnisjóðurfunds (1000 þ kr). We still haven't got the formal answer from UOOR and

Framleiðnisjóður, but we hope to get it within the next month. Bjarni is optimistic in our behalf.

- Guðmundur: KOLBJÖRK (2008-2011) – It is a UOOR-funded research project led by Gudmundur and Óli Arnalds. It focuses on ecosystem processes (C and N cycles) and vascular plant biodiversity across successional stages between eroded land and old-growth birch woodlands. It takes place in the same area in S-Iceland as ForStreams, and shares the Hraunteigur site (SB1). There are two students working with the project; a M.Sc. student (Magnús Þór Einarsson (Bjarni is the supervisor)) and a PhD student (Páll Kolka; Óli Arnalds is the supervisor)).
- Guðmundur: RINO – a new Nordic theme project. The scope is the effect of restoration on biodiversity. The project compiles available data from different studies, and ForStreams is of great interest for this work.
- Bjarni: He attended a CAR-ES workshop in Vaanta in Finland in January. This was a “writing workshop”, where the group finalized a manuscript related to the scope of the ForStreams study, that has now been accepted in *Scandinavian Journal of Forest Research*. REF: *Weslien, Jan, Leena Finér, Jón Á. Jónsson, Harri Koivusalo, Ari Laurén, Thomas Ranius, Bjarni D. Sigurdsson (2009). Effects of increased forest productivity and warmer climates on carbon sequestration, runoff water quality and accumulation of dead wood in a Boreal landscape: a modeling study. Scandinavian Journal of Forest Research (in press).*
- Bjarni: Pointed out a new interesting reference for the southern study site. Friðþór Sófus Sigurmundsson (2008) *Breytingar á þekju kjarrs og birkiskóga í nágrenni Heklubæja 1987-2008*. BS ritgerð, Land- og ferðamálafræðiskor, Háskóli Íslands, Reykjavík, p. 56.
- Jón S. Ólafsson: There are some new projects running which look at freshwater ecosystems in “warm” and “normal” small streams. These are mainly spinoffs from the ERUOLIMPACS EU study. The research questions are somewhat different from SkógVatn. The effect of climate change on foodwebs and community structure in the streams.
- Gísli: EU’s Water Framework Directive. This was passed as laws in most European countries in 2000. Then it led to a large increase in both funding for research and monitoring of freshwater ecosystems, especially on the effect of land use and land-use changes on the freshwater ecosystems. The Icelandic government passed a bill on implementing these laws in Iceland in 2007, and they should have been put into force before July 2009. This year the cost of this work is ca. 60 million ISK, which mainly goes to lawyers and some directly to some institutes (e.g. Veiðimálastofnun, Orkustofnun, ...). Maybe there are some possibilities to promote SkógVatn in the context that some of the sites should be continued as monitoring sites.
- Edda: Is writing a chapter into a COST-ForMan book (as well as Gísli). Edda’s chapter is about afforestation and water. She mention the ForStreams project in the chapter!
- Edda/Bjarni: Brynhildur will defend her PhD thesis 15th of June at Lund University.

- Helena: She is going to finish all her lab-work needed for her M.Sc. thesis in June and then she will stay for 1,5 months in Stavanger, Norway, where she will write up her thesis. Gísli knew an Icelandic biologist that lives in Stavanger; Anna Ingvarsdóttir... Helena gæti haft samband við hana.

3. Where are we compared to the project plan (BDS)

When is enough enough? We have stopped taking water samples, but most other measurements will continue into 2009 season.

4. Financial status (BDS)

BDS got data on working hours during 2008 from everybody except UI and Matís. Gísli: We can put one month on Gísli in working hours and 5 months on Julia Broska.

Bjarni showed the financial status of the project. All partners used their funds in 2008 and a little more. Total “additional cost” in the project amounted to 9.6 million ISK, but the funds we had in 2008 were 7.5 million. All partners overspent a little in student salaries and travel cost; Mogilsa and LbhÍ went 49 and 51% over their assigned amounts, but other partners were closer to the assigned amount.

5. and 6. What is left to do – and how are we going to finish it. Project plan for 2009 finalized (Everybody)

The division of funds presented by the project manager were accepted by all participants by the following changes; Mogilsa gets 300 þ kr for travel cost and Matis 50 þ kr for bacteria analyses from wells.

FIELDWORK:

Two main fieldtrips are planned to the sites in 2009; in April/May and in Sept/Oct. Some work at the S-sites in August.

Gintare’s MS → Only one more sampling, only in E-Iceland? (April/May).

Helena’s MS → Only one more sampling, only in E-Iceland (April/May).

Fish and gut contents (Siggi/Gisli/Friddi) → Fish will be surveyed in all study-streams containing fish in eastern Iceland in April/May. Some fishes will be removed for stomach content analysis, that will be done at Veiðimálastofnun. Bjarni’s suggestion: An effort should be made to sample trout (urriði) in at least 3 (5?) streams of each vegetation type (for stomach analysis), even if some have not been included in the project. This will yield a possibility to include the fish compartment in statistical analysis, etc.

Harvest and terrestrial NPP (Edda/Brynhildur) → They will do their measurements in S-Iceland in late August. Same protocol as was used in E-Iceland.

Litter traps and litterfall (Edda/Helena) → Last collection should be made in April/May for littertraps along streams. Same for litterfall-traps.

Water level, T_{water} monitoring (Berglind) → Should be continued until Sept/Oct, when they have recorded two full years.

Chlorophyll measurements (Jon) → Last sample in April/May.

Bedload measurements (Jon) → Last sample in April/May.

Water samples (Bjarni) → Was stopped at the end of last year.

Water quality (Guðmundur) → It is tempting to take one “snapshot” from soilwater wells in S-Iceland now, one year after they were put in. Only 8 samples.

Cleaning up the stuff (all) → Will be done in Sept/Oct.

DATA ANALYSIS AND LABORATORY WORK:

Water chemistry (Bjarni) → All water samples being dealt with now. i) elemental analysis (N, K, Fe, Zn, Ca, Mg, Na, Cl; IPC analyser) and some compounds (TON, NO₃, NH₄, SO₄, PO₄) are now being analysed at Efnagreiningar Keldnaholt (500 ml bottles). Should be ready in two weeks. ii) TOC, POC, DOC, IC are being analysed at the Ýmir soil laboratory at Keldnaholt by Brita Berglund (200 ml bottles).

ISS/FPOM (Jon) → MS students will measure this, as they are working at the lab. Starts next week (1 L bottles) – Jon will teach them how to do this.

Terrestrial biomass, carbon stocks and NPP (Brynhildur) → Brynhildur will work on the data analysis for all study sites after the samples from S-Iceland have been processed at Mogilsa.

Soil chemistry (Bjarni) → Samples will be sent to analysis to Ýmir soil lab when

Chlorophyll (Jon) → This data has not been dealt with yet. Will Gintare do it or Jón? Sediment composition (stones) will be used to convert this data to g/m² of stream. What about converting chlorophyll content to annual production (kg/m² year); is that possible?

Discharge (Jon) → Jon will analyse these data soon.

Streamflow and T_{water} (Berglind) → Berglind will soon start to compile waterlevel and T_{water} data from loggers – and she will try to make a runoff-key as soon as Jon has analysed the discharge data. Then she will see if we have enough discharge point measurements for such key; if not, we could make extra measurements this summer/autumn before we dismantle the stations in Sept/Oct.

Driftnets (CPOM) (Helena) → Helena will have these data ready by 15th of October

Litter transport and litter fall (Helena) → Helena will analyse the samples from the october litter traps in her thesis (finished in June) and then she will get to finish analyzing all other litter trap and litter fall samples after her defense (Oct-Dec).

Fish stomach contents (Siggi) – Veiðimálastofnun will have someone do that this spring/summer.

6. Other Issues

- I. Bjarni: **CAR-ES meeting in Iceland in June 2009** – Bjarni/Brynhildur will host it sometime during 3-4 June 2009 at Öngulsstaðir, Eyjafjörður. 10-15 foreign ecologists who are specialized on forest ecology and water, biodiversity and carbon issues. Linking together ecological issues of water and land, focussing on forests. We have been asked to make ForStreams one of the main Icelandic contributions at this meeting...
 - a. **Who is going to attend?** Bjarni; Brynhildur; Helena; Gintare; Guðmundur – maybe; Edda – maybe; Gísli – maybe
 - b. **Who will give talks?** Helena; Gintare; Bjarni; Brynhildur?
- II. Bjarni: **A side study on the aquatic/terrestrial link.** Stjórn Orkurannsóknasjóðs LV has now accepted to change the side-study that Karólína was going to do in her PhD to one year more limited project that should be done in 2009. We have ca. 2000 þ kr for this project. Bjarni, Jon, Berglind, Gísli will soon organize how this will be done.
- III. Bjarni: We are invited to give lecture/lectures at an international conference in Finland 21-24 September. The topic of this conference is close to ForStreams. Those that are interested should submit abstracts soon. See: <http://www.metla.fi/tapahtumat/2009/koli/index.htm> . We don't have funding for attending this conference.
- IV. Edda and Jón: **COST ForMan meeting** in Athens, Greece, 11-15 May. Who is going to attend? Probably Jón and Edda. Discussed if an extra seat is available, Gintare could maybe go and give a poster on her study. Edda will send more information to participants – and those that are interested should contact her or Jón.

The meeting ended at 13:30

Mini-Conference on the first results from the ForStreams project

Guðmundur: Skógvatn – örverur í vatni

Showed very interesting data that has been analysed by Matís (Franklín Georgsson and Hrólfur Sigurðsson) on bacterial counts and water quality in:

- a) Streams in S and E Iceland
- b) Wells in S Iceland

Highest bacteria counts in streamwater in birch forests in South and in conifer forests in the East. 1/3 of the total bacteria counts in South where the spring water surfaces, compared to counts at the measurement stations. Discussion on what high total bacteria numbers mean, versus few Enterococcs, Koli or E.coli counts. No statistical analysis done yet.

Only some pilot measurements done in wells in SB2 and SS2. Very high counts of total bacteria in 22 °C, but much less in 37 °C and very few Enterococcs, Koli and E. coli. Discussion if we should take one snapshot from the wells in 2009 - ca 50.000 kr. Accepted.

Discussion if it would be possible to use the suction cups to take samples of soil water for bacterial analysis in 2009. Berglind is going to check if the ceramic cups are porous enough for bacteria to pass through.

Friddi. Fiskar í lækjum SkógVatns.

Austurland – urriði í Geitdal – bleikja í Buðlungavallaá og Droplaugastaðaá, Skiptir fisktegund máli fyrir magainnihald?

Bleykja og urriði SS2 og SB2 – urriði í Hraunteig.

Bjarni leggur til að veiddur verði urriði í fleiri lækjum en SkógVatnslækjunum á Austurlandi til að ná magainnihaldi úr öllum þremur gróðurlendum. Gera mælingar í 3 (5) lækjum úr hverju gróðurlendi svo hægt sé að gera tölfræðigreiningu hvort munur er á milli gróðurlenda.

Helena Marta's MSc study.

Study on stream ecosystem function. Five main research questions and hypotheses.

Helena needs to do more work on her hypotheses, e.g. for question 5...

Her first results show that:

- a) Sample time 2 has now been analyzed – the surprising difference between coarse and fine bags in 1st sample time had disappeared for grass – less for needles and birch leaves than in the 1st, but fine bags still have higher decomposition rate.
- b) Birch litter is decomposing slower than grass and larch. This is not according to the textbook – why?
- c) Birch litter is not decomposing at different speed in three different catchment types in E-Iceland = No indications for an adaption of the decomposer-community to catchment type. Are we missing the shredders in the forest streams?

Gintare's MSc study.

She has separated all invertebrates in samples taken in E-Iceland until Nov 2008 – only winter and spring (2009) samples left. Only separated one sample from S-Iceland. She has started to identify invertebrates to species level. She is now getting very interested in this and can identify most species. Number of taxa in the streams is 4-15 – number of species will be 40-60...

Her first results show clear seasonal pattern for stream invertebrates; highest densities occur in October in E-Iceland. She has started to make some statistical analyses; but not nod repeated ANOVA analysis for “catchment type” yet – Bjarni offers to do that with her.

Most birch streams had higher densities but one less – therefore, probably no significant differences between catchment type in densities.

Eftirmáli:

Þannig var það að Guðmundur nokkur Halldórsson hafði fyrir margt löngu sagst ætla að halda erindi um fyrstu niðurstöður vatnsgæðamælinga í Skógvatns-verkefninu á vofundi verkefnisins sem haldinn var fyrir í dag.

Það er eitt af meginhlutverkum hvers verkefnisstjóra að leggja féлага sína í einelti og ýta þeim út í keldurnar, t.d. að fá þá til að halda erindi um fyrstu niðurstöður mælinga sem þeir hafa ekki alveg náð að vinna úr ennþá... Verkefnisstjóri sá sér því leik á borði við undirbúning fundarins í síðustu viku og sendi þá út dagskrá þar sem það stóð stórum stöfum að Guðmundur myndi halda erindið í fundarlok.

Barst þá tölvupóstur af Rangárvöllum:

„Takk fyrir að ferma fyrir mig water quality gamli þrælapiður“

Hann fékk þá svar um hæl, þar sem stóð:

„Mín var öll ánægjan ;o)“

Liðu þá u.þ.b. 5 mínútur og þá kom önnur sending frá ofanverðum Rangárvöllum:

Er þetta ekki týpískt atarna
mín tilvera er ekkert grín
ánægjan öll er Bjarna
eymdin og kvölin mín

Verkefnisstjóra var mjög skemmt – og sendi auðvitað vísuna á alla þátttakendur í verkefninu, með cc á skáldið, og sagði hana vera stuttan útdrátt á erindi Guðmundar, sem hann ætlaði örugglega að halda í fundarlok.

Eitthvað sperrtust Veiðimálastofnunarmenn upp við að fá útdrátt í bundnu máli, því að forstöðumaður þeirra mætti keikur á fundinn og opnaði hann með eftirfarandi fríunarorðum á skáldið góða frá Rangárvöllum:

Mikið er Guðmundur góður
gamanið hann skortir þó.
Diðrikinn dísir í rjóður
dregur úti í skóg, ó, ó.

Ekki er nú verkefnisstjóri viss um sannleiksgildi þessara orða – en dísirnar verða að svara fyrir sig. Líklegast hefur hann byrjað að halda yfir þeim langan fyrirlestur um ólínulegar nálганir og aðra skemmtilega tölfræði – ekki furða að þær stynji, ó,ó...

Guðmundur lét hinsvegar sem ekkert væri og flutti sinn fyrirlestur um örverumælingar og vatnsgæði á ógrónum og birkiklæddum vatnasviðum verkefnisins í nágrenni Heklu. Síðasta sumar vann hann þar hörðum höndum að því að koma niður brunnum til að geta mælt vatnsgæði í jarðvegs- og grunnvatni. Þegar hann svo fékk niðurstöðurnar frá Franklín vini sínum á MATÍS kom í ljós að öll þessi vinna fór fyrir lítið, því að brunnarnir virkuðu ekki sem skyldi. Mikill gerlafjöldi mældist í þeim á öllum

rannsóknasvæðum... Þó tók verkefnisstjóri eftir því að lítið var af ákveðnum gerðum baktería (saurgerlum) í brunnsýnunum, og spurði höfðingjann hverju þetta sætti. Hann svar snöggur til svars, og sagði: „það þýðir að lokin tolldu á brunnunum“...

Fór þá eitthvað að kumra í Veiðimálastofnunarhöfðingjanum – og svo kom:

Guðmundur hrósar happi,
heldur í gerlafjörið.
Vonar að vænn tappi
Verndi hjá sér rörið.

7. verkefnisfundi SkógVatnsverkefnisins var slitið kl 15:01