Project at Iijoki River basin 2016-2018

Esteet pois!
Migration barries off!

Joint environmental management of the River Tana, Rovaniemi 22.11.2017

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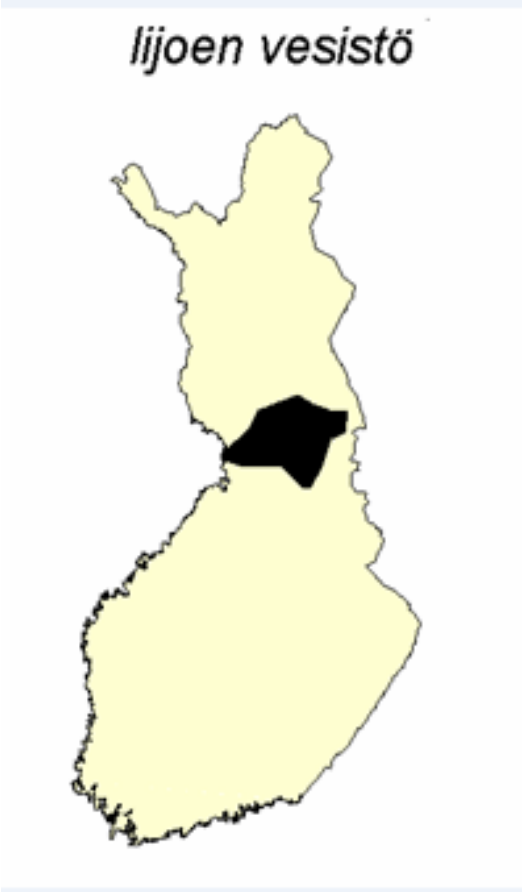
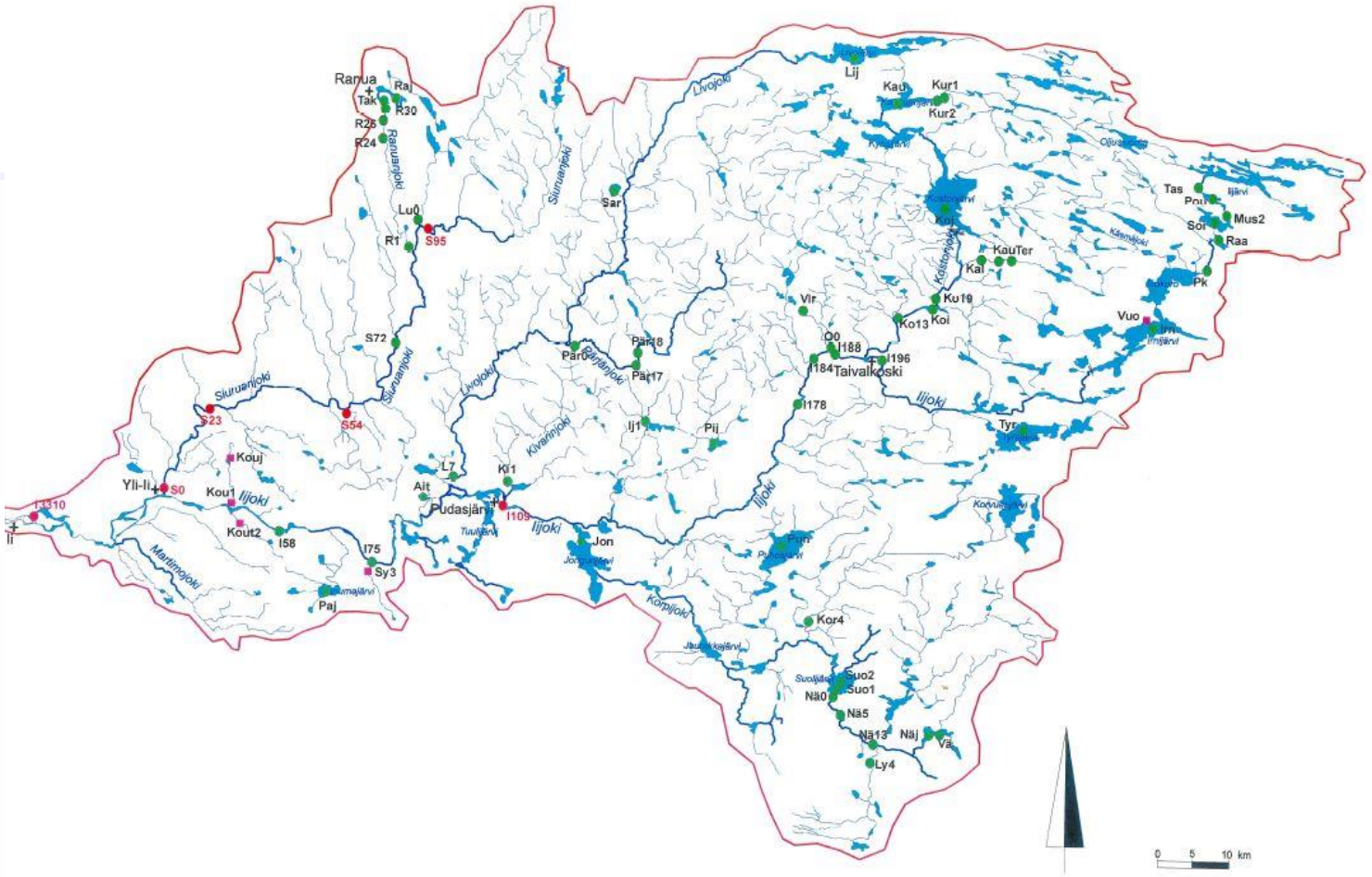
METSÄHALLITUS

Iijoki River basin



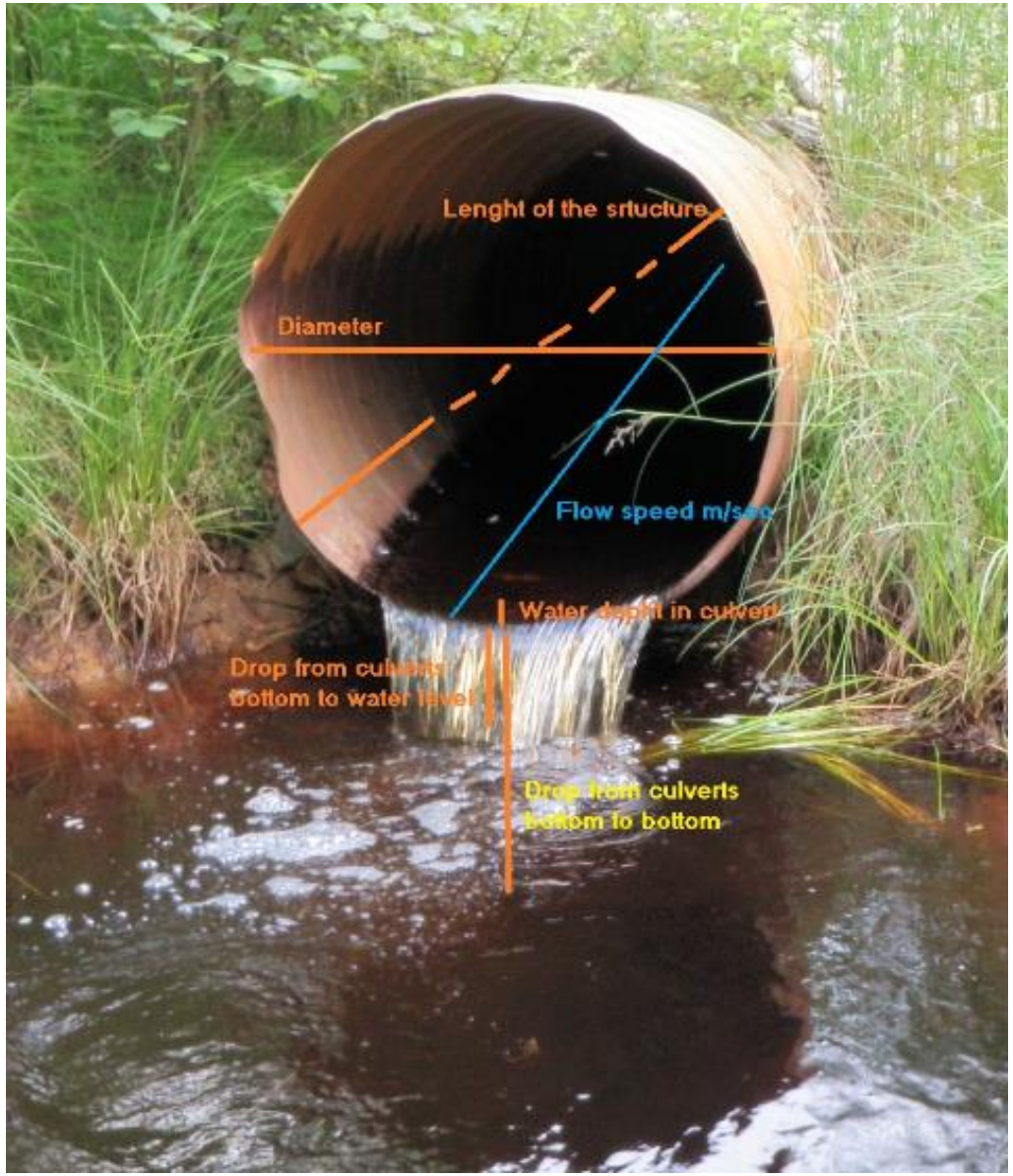


Background to our project 2016-2018:

- Along with **Stream habitat surveys** in the Iijoki river basin (**1998-2014)**
  - We find at least 60 full-time migration barriers at 50 headwaters. Mostly they are road culverts.
  - In the beginning we havent knowledge enought to estimate part-time migration barriers
    - We were lucky! The first province-wide study of culvert structures in Middle-Finland came out in April 2016

    → we got well-estimated inventorysystem to our project, (well, we adjusted it a little bit to our own purpose)
- Also we were aware about Swedish Trafikverkets ReMiBar-Life and have had co-operation with them before
- Financing 199 000 €
  - Ministry of the environment 160 000 €
  - Metsähallitus, Parks and Wildlife 30 000 €
  - Voluntary 9 000 €
- **Project started at 1.6.2016**
  - **2016 inventories ~ 225**
  - **2017 inventories ~ 300, coresting/restoring migration barries ~ 28 culverts, returned about 130 km migrating routes, ~19,5 ha trout habitats**

Ylitysrakenteiden kartoituslomake	Survey form to stream crossings
Kartoittajat	Mappers
Pvm	Date
Vesialueen nimi & kohde nro	Name and number
Kunta	Municipality
Valuma-alueen nro	Catchment area
Jatkumotyyppi (1-3)(1	Type of continuum
Tien omistaja	Owner of the road
X/Y koord. (ETRS-TM35FIN)	
Vedenkorkeus (1-3)(2	Water level
Uomaleveys (1-5)(3	Width of the channel
Rummun rakennetyyppi (1-5)(4 ja lkm	Type and numb of the structure
Muoto (1-4)(5	Form of the structure
Materiaali (1-4)(6	Material of the structure
Pituus (cm)	Lenght on the structure
Halkaisija (cm)	Span/diameter
Vesisyvyys rummussa yp&ap (cm)	Depth in the structure, up&downstr
Alapään pudotus vesipintaan (cm)	Downstream drop from structures bottom to waterlevel
Alapään pudotus uoman pohjaan (cm)	Downstream drop from structures bottom to bottom
Virtausnopeus (m/s) tai arvio (1-4)(7	Flow speed
Rumpurakenteen kunto (1-2)(8	Status of the structure
Esteellisyys, kyllä/ei	Migration barrier yes/no/partly/at times
Esteellisyyden sijainti (1-3)&esteellisyysaste (4-6) (9	Location of the barrier
Esteellisyyden lisätiedot(10	Additional info
Valokuvat, yp/ap, kpl, klo	Pictures
Lisätiedot, esim. kalasto ym. Luontoarvot	Nature values, fishes etc.
Kunnostusmahdollisuudet	Possipilities to restore/corrections



BEFORE AND AFTER CORRECTION/RESTORATION

Pvm		Vesialueen nimi Name	Kohde Target nro	Ved kork arvio estimate water level 1-3	Syv rummussa 1 alap cm Waterdepth in the structure 1 downstr	Syv rummussa 2 alap cm Waterdepth in the structure 2 downstr	Alap pud vesip 1 cm Downstream drop from bottom to waterlevel 1	Alap pud vesip 2 cm Downstream drop from bottom to waterlevel 2	Alap pud uom pohj 1 cm Downstream drop from bottom to waterlevel 1	Alap pud uom pohj 2 cm Downstrem drop from bottom to waterlevel 2	Vesis 1 yläp cm Waterdepth in culvert upstr 1	Vesis 2 yläp cm Waterdepth in culvert upstr 2	virtnop sek Flow speeg cm/s	Kuvat klo Pictures time	Työaika h Work h	Lyhyt kuvaus työmenetelmistä, materiaaleista, määristä Description ab methods, materials, amounts
	bc	Suoperänoja	178	2	10	14	15	0	29	35	13	21	**129**			Manmade 2 tresholds with wooden core, 2 trailers stones and 2 trailers gravel
	ac			2	20	28	0	0	49	76	21	14	**35**		3 htp	
	bc	**Punkinoja**	234	2	5	4	5	0	27	13	6	2	**77 cm/s**	Punkinoja_ Alap		Closed another culvert upstr., 5 trailers stones, 5 trailers gravel to 3 tresholds
	ac			1	10		0		27	13	9		**26 cm/s**		7 htp	

Downstream before

Downstream after:
flow speed
77 → 26 cm/sec,
Another culvert is closed

Upstream:
If culverts are at the same level and there is too shallow water level, we close another culvert.
It works at flood time or when water level raises over 20 cm in main culvert.

Punkinoja after correction:

Closed another culvert upstream,
3 tresholds needed
5 trailers stones,
5 trailers gravel and seven person working days.

Well, this is better now, but it could be better with bridge.

Alahaapuanoja

Not only for aquatic animals..

A bridge with a dry path, a lot of different footsteps

and crossing without dry path, no more footsteps..

Winner!

2. price

3. price

Thank you for your attention!