

The WaterMan project

Reuse of storm water and next generation multi-dams in Gamleby & Västervik

Anders Fröberg and Ingela Karlsson

Västervik Municipality



Västervik Pilot The challenge

- Too much and too little of water
Problems with heavy rains and water scarcity in summertime
- Climate change and more hard surfaces
makes the problem worse

From the news - Effects of climate change, too much and too little of water

Mer av både skyfall och torka på jorden



Människor flyr undan vattnet efter ihållande regn i Kulli i den Indiska staten Himachal Pradesh i slutet av augusti i år. Foto: Aqil Khan/AP/TT

Fler kraftiga skyfall och fler perioder med svår torka. Det är vad som väntar världen, slår världsmeteorologiska organisationen WMO fast i en ny rapport.



LARS THELL MARKLUND, FORSKARE RISE

Skyfall och torka ökar – men många kommuner halkar efter i arbetet med klimatanpassning

Sveriges infrastruktur är inte rustad för extremväder. Lars Thell Marklund ser brister i hur kommuner hanterar både skyfall och torka – och menar att det krävs bättre och tydligare ansvar och samarbete för att utveckla

Läs artikeln

Water retention solves many problems

Actual and prioritized issue in Västervik

- Protection from floods
- Climate adaption
- Reduce of nutrients
- Winwin-effects



Storm water can be a resource instead of problem

Climate adaption, recreation,
reuse - irrigation and other use , green
and pleasant surroundings, biodiversity



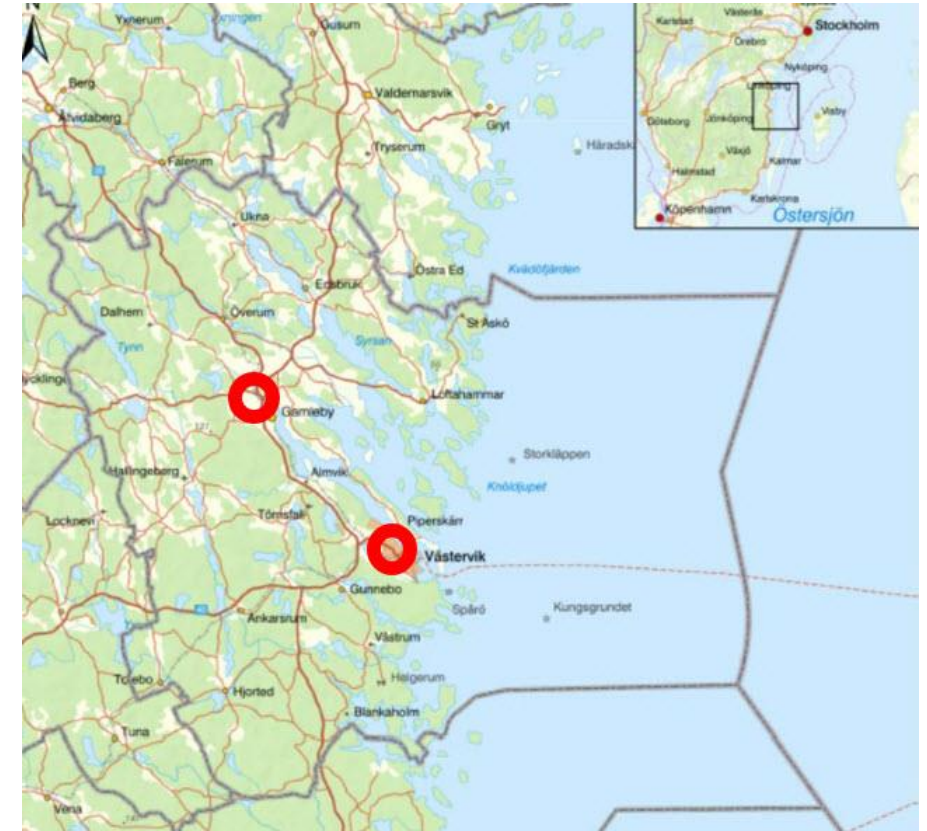
Background and objectives

- The reuse of water from the "multidam" in Gamleby. The water had been used for sportfields for 2 years. It was a winwin solution
- Saving drinking water and water retention are prioritized issues in the Municipality
- The users of the water were satisfied
- We wanted to develop the concept
Wider use, Tap points, More of "multidams"

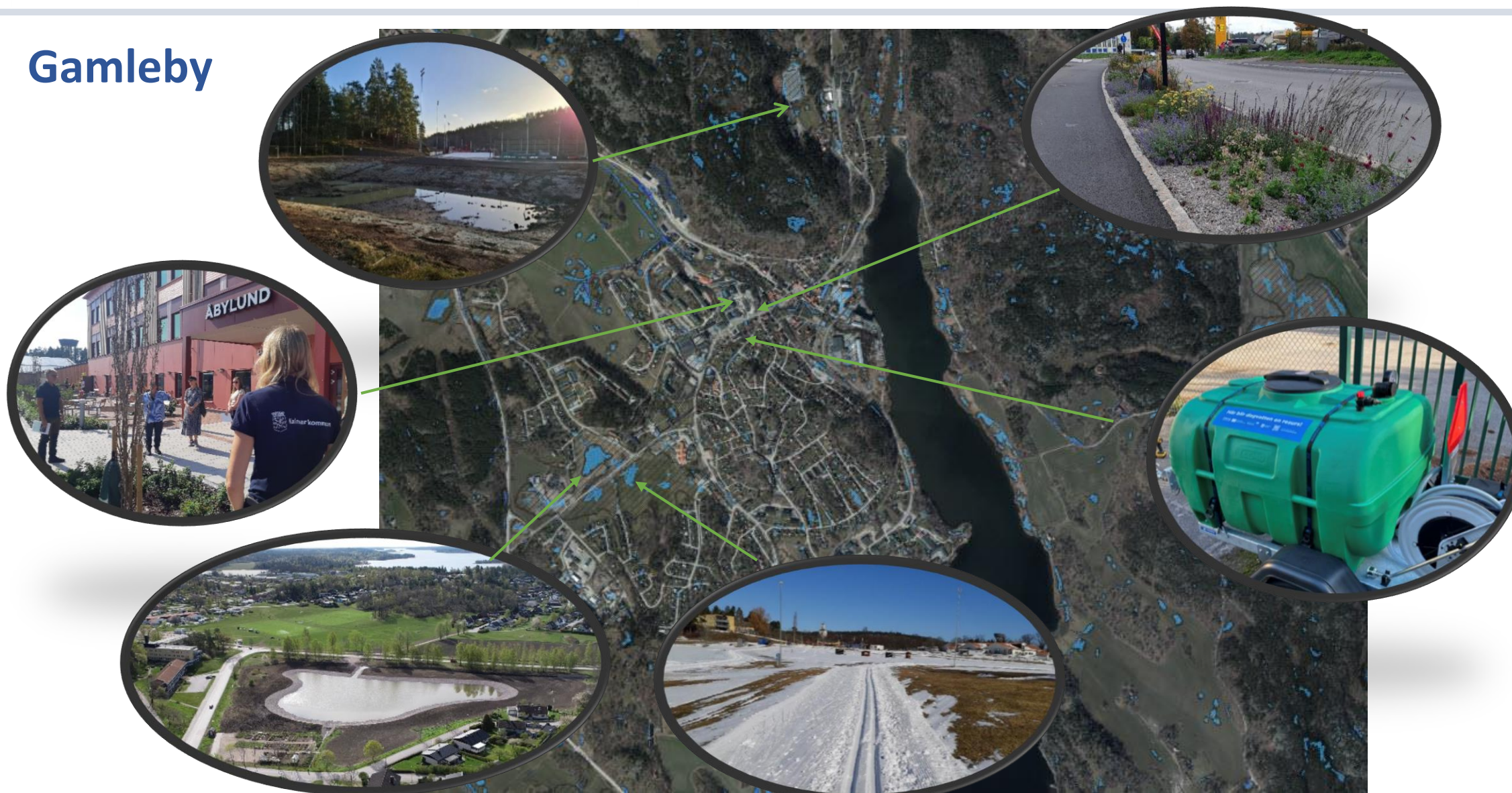


Pilot measures in Västervik municipality

- Development of the use of storm water as a resource
 - Tap points for wider use in Gamleby and Västervik
- More "multidams" in Gamleby and Västervik



Gamleby



Measures in Gamleby

- Tap point in Erneberg "multidam"
New users: Cemetery, housing areas, plantation/trees citycenter
- Developed drainage system in the sportsfield
- "Minimultidam" in Tjustvallen
Automatic irrigation system, football, tennis, ice skating
- Evaluation of reuse of rainwater for flushing toilets in Åbylund Gamleby
Completion with filter (pollen)
- Suitable transport of collected water

Gamleby

Tap point and drainage works



Gamleby "Minimultidam" Tjustvallen

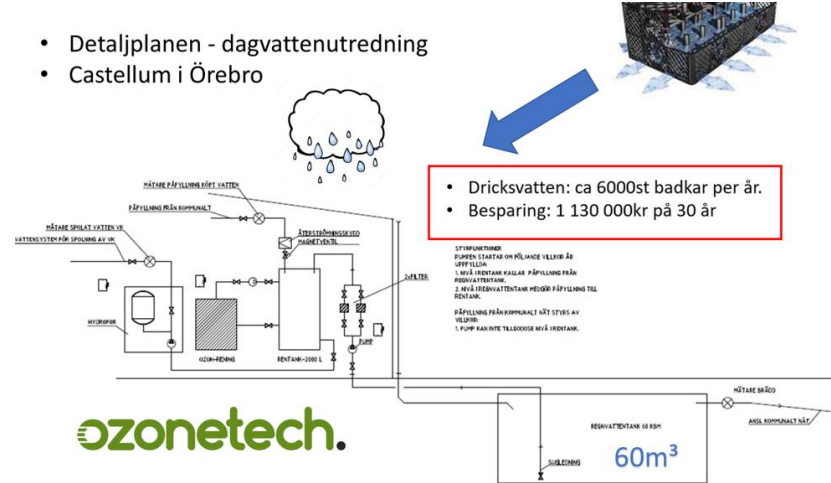


Gamleby Rainwater for flushing toilet

Gamleby Suitible transport



- Detaljplanen - dagvattenutredning
- Castellum i Örebro



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Measures in Västervik

- Tap point in Örserum
New users: Plantations/trees citycenter, housing areas, more of sportfields
- Aeration Örserum Västervik
For less algae in the "multidam"
- "Mini-multies" in Marieberg and Jenny
- Feasability study for climate adaption measures in Karstorp industrial area
- Measures for water retention in Karstorp
Nature based solutions to decrease the problems with heavy rains including "mini-multi" for using water for irrigation
- Show room municipal hall, local use of rainwater



Västervik Tap point



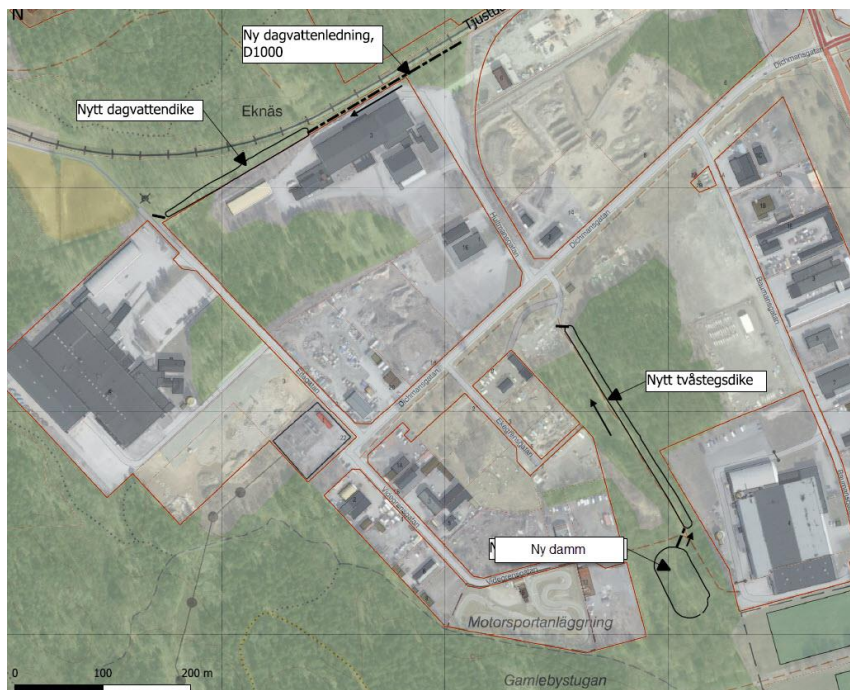
”Minimultidam” Piperskärr



Karstorp Västervik

Room for water, open storm water treatment

Multi functions





Reuse of stormwater

How we are working

- Collecting water at the right place close to the users
- Pipes to the closest users as sportfields
- Tap points for filling water and transporting to use for trees, summer flowers, housing companies etc
- Municipality want to be a good example in sustainability



Development & implementation

- Close contact to the users
- Contact to potential users through Municipality and Water company
- Demands in building process (new houses/renovations)
- Information and peptalk – use the dry summers for understanding



Users and key stakeholders

- Municipality Parkdep, Manager and coordinator, local authority
- Public housing company VBAB, Water company VMEAB
- Sport clubs
- Churches
- Housing companies
- Entrepreneurs (working for Municipality)



Meet the users on site



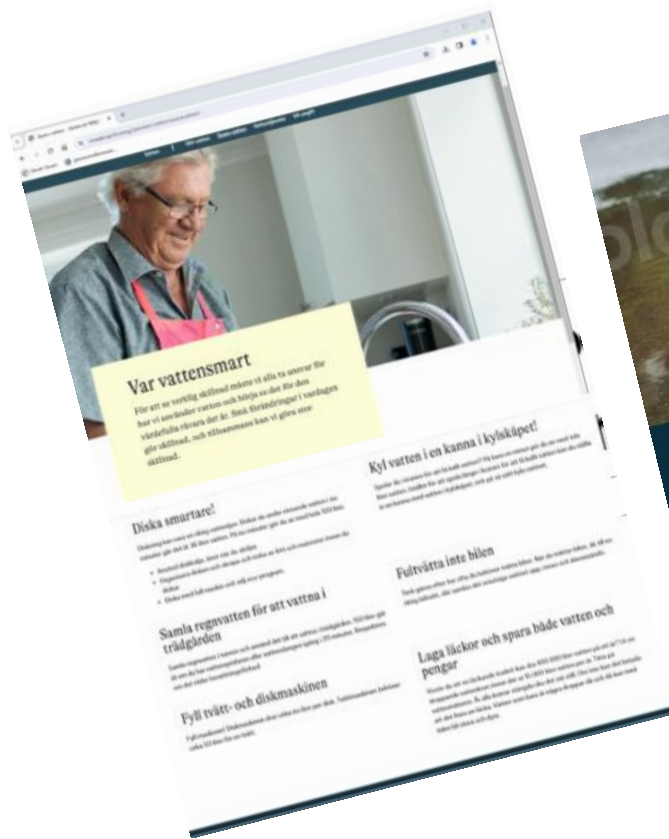
How is it working

Problems, improvements, motivation, appreciation

Evaluation file for improvements

Users of contained stormwater																		
Västervik och Gamleby																		
	2023			2024						2025								
	VBAB (Erneberg)	Kanonaden G	AMA Gamleby	VBAB (Erneberg)	Kanonaden Gar	Kyrkan Gamlet	VBAB Åbylund	Kyrkan Västervik		VBAB (Erneberg)	Kanonaden Ga	AMA Gamleby	Kyrkan Gaml	VBAB Åbyl	Kanonaden Väs	Fotbollsplane	Kyrkan Vä	VBAB Tj
Contact	Markus R	Jörgen	Jörgen	Markus R	Jörgen	Mathias L	David	Göran		Markus R	Jörgen	Jörgen	Mathias L	David	Jörgen	Frippen VBAB		Markus
From tap point kbn	Yes >1000	Yes 15		Yes >1000	Yes 15	Yes 50 ?		1 000		>1000		100	100	100 ?	Yes >1000	Yes 500		500
Local collection							Yes											Yes
Instead of	Drinking water	Drinking wate	Drinking water	Drinking water	Drinking water	Drinking water	Drinking water	Drinking water		Drinking water	Drinking water	Drinking wate	Drinking watr	Drinking v	Drinking water	Lake water	Drinking v	Drinking
How is transport from tap point working		Ok			Ok	Ok					Ok	Ok	Ok		Ok	Ok		
Practical problems tap point		No			No	No					No	No	No		No	No		
Function of the used water, problem quali	Ok			Ok		Ok	Ok	Ok		Ok	Ok	Ok	Ok		Ok	Ok	Ok	Ok
Practical proplems irrigation/etc	No	Sacks mainten		Drainage	Sacks maintena	No												
Improvements suggestions		Drainage can be better		Drainage				First flush filter (p	Aeration						First flush filter (pollen)			
Other use than irrigation								Toilet flushing							Toilet flushing			
Comments	First flush			First flush		App fungerar		Drip irrigation problem										
Bevattningsäck 75 l Kan tas upp och skötjas																		

Encourage/inspire to save water



Webpage, brochures, social media, newsletters

Lessons learned and adjustments

- Find the right location to collect the storm water
Close to user, not heavy polluted, where you need water retention, look for winwins
- Its not enough with one solution
More of local solutions – Mini-multi-functional dams
- Suitable transport of collected water is important
Irrigation cart with electric motor, right size and according to work environment regarding noise level in residential area
- For toilet flushing with rainwater there will be a good idea with a pollen filter



Scalability

- Good potential for scalability in the municipality and in the region
- More "mini-multies"
- There are a lot of potential users and a lot of storm water to use
- Possible winwins



Final reflections

Start to use storm
water for irrigation

Winning concept in
saving water, climate
adaption and
biodiversity

Start with water for
irrigation and the big
users of water

Find the right place for
measures

Maintenance and
evaluation is important
(pumps, nozzles,
irrigation sacks etc)

We need to reuse
storm water and
treated wastewater
(different users)

It is not enough with
one “multidam”.



Helpdesk / Contacts for further information:

Anders Fröberg

anders.froberg@vastervik.se

+46 706 631 456

Ingela Karlsson

ingela.karlsson@vastervik.se

+46 103 557 034

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eurobalt.org/WaterRecyclingToolbox

interreg-baltic.eu/project/waterman

WaterMan promotes a Baltic Sea Region-specific approach to water recycling, which makes use of the alternation of too much and too little water that has become typical for humid areas in the EU to strengthen the resilience of local water supply. Building on this approach, the project supports municipalities and water companies in adapting their water supply strategies.

The contents of „BSR Water Recycling Toolbox” are the sole responsibility of the authors and can in no way be taken to reflect the views of the European Union, the Managing Authority or the Joint Secretariat of the Interreg Baltic Sea Region Programme.

