# RESERVOIR AND VECTORS OF SPDY (3)















## PR transmission in Norway



SPDV3 area is decreasing soutward / SPDV2 area is increasing northward

## To control PR

#### Identify transmission routes (SPDV3)

- 1. Vertical transmission?
- 2. Contact networks?
- 3. Reservoirs and vectors?



- Environmental stress?
- Other infections?
- Prophylactic treatment?

• Find strategies to in reduce transmission and infection pressure



# **Beservoirs and vectors**

- Is SPDV3 present in organisms/substances other that salmon on site?
- Is fallowing and disinfection sufficient for removal of SPDV from site?
- Is SPDV transported as free particles in seawater or by various vectors?
- Is SPDV excreted from both living and dead fish?





### In organisms/substances at infected farming sites?



Fouling organisms:

Sediments:

Sediment fauna :

Plankton:

SPDV3 & PMCV not registered SPDV3 & PMCV not registered SPDV3 & PMCV not registered SPDV3 PMCV not registered\*

Fallowing seems sufficient for virus removal!

## Other organisms and substances of salmon nature?

Salmon lice:

Salmon excretion:

#### SPDV and PMCV registered\*

#### **SPDV registered\***

- Feces
- Mucus
- Vomiting
- Yellow casts
- Clods of salmon nature



\* Not analysed for other viruses

### Is the infected farmed salmon is the main reservoir of SPDV?

Salmon lice and salmon excretion – possible vectors?



- Sea lice a vector for within farm transmission?
- Salmon excretion a vector for between farms transmission?
- Lipid phase on the surface water of special interest?





#### SPDV, PMCV and PRV registered in fat leakage from dead salmon

### Surface water transport along the Norwegian cost:

Dominating North-easterly currents along the coast



#### Seasonal water transport in the fjords



Large transmission potential for SPDV3 along the Norwegian coast!

# Conclusion

Pathogenic virus is shed from dead and living infected salmon

- The leakage of SPDV3 form dead salmon is increasing with time at high temperatures
- SPDV3 leaking from adipose tissue in dead salmon is infective!
- Can this surface layer also attract virus shed from living salmon?

Efficient and hygienic dead fish removal



Is the lipid layer at the surface; a vector for long distance transmission of pathogenic viruses?

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