



*"En modern och effektiv myndighet
för ett levande örike med en ren och trygg livsmiljö"*

Some overviews first

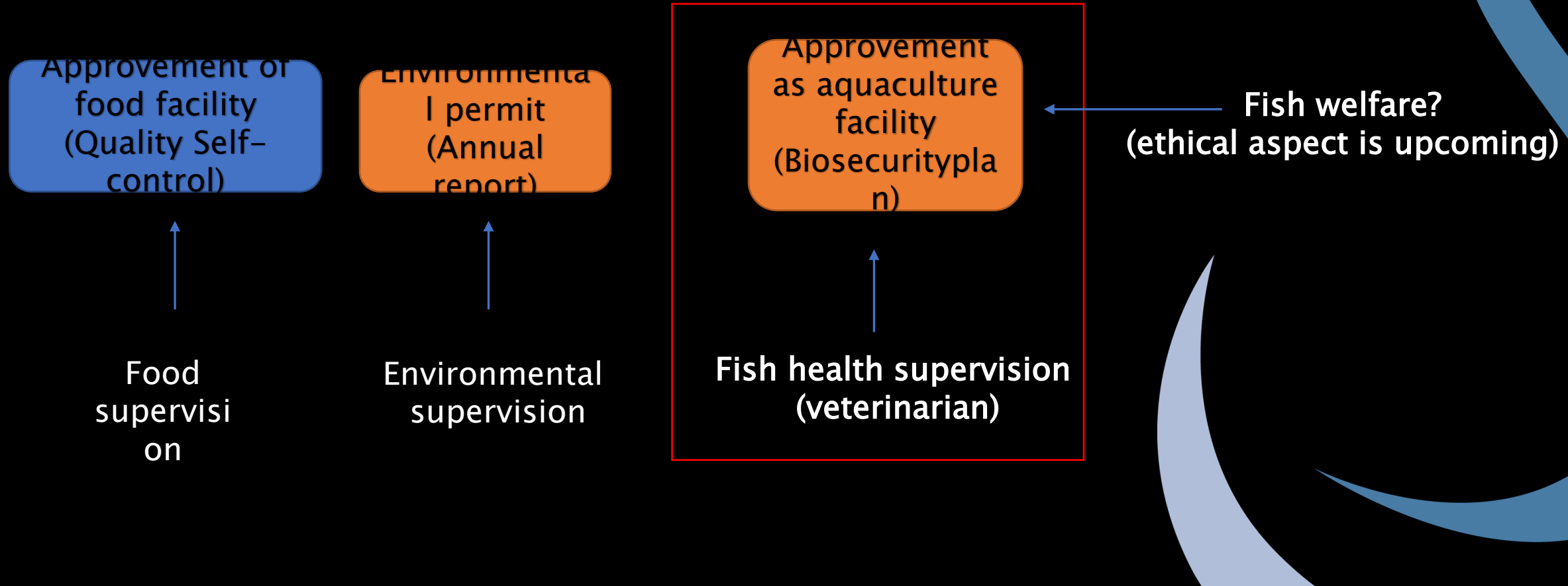
Me

- Graduated as a veterinarian 2011.
- Started out with clinical work but got a employment at Åland government 2012 as official veterinarian on the local slaughterhouse.
- As official veterinarian I was also given the task to go out to the fishfarms on Åland and collect the official samples for disease control.
- In the beginning it was a couple of weeks work in the spring and autumn, but it grew over time and since 2019 I have been working with this as my main job.

Fishfarming on Åland Islands

- 27 Commercial seabased farms
 - 1 Commercial RAS–farm
 - 1 RAS–farm under government administration
hatching and farming of wild fish for release
-
- ~50 % of Finnish production of fish for consumption

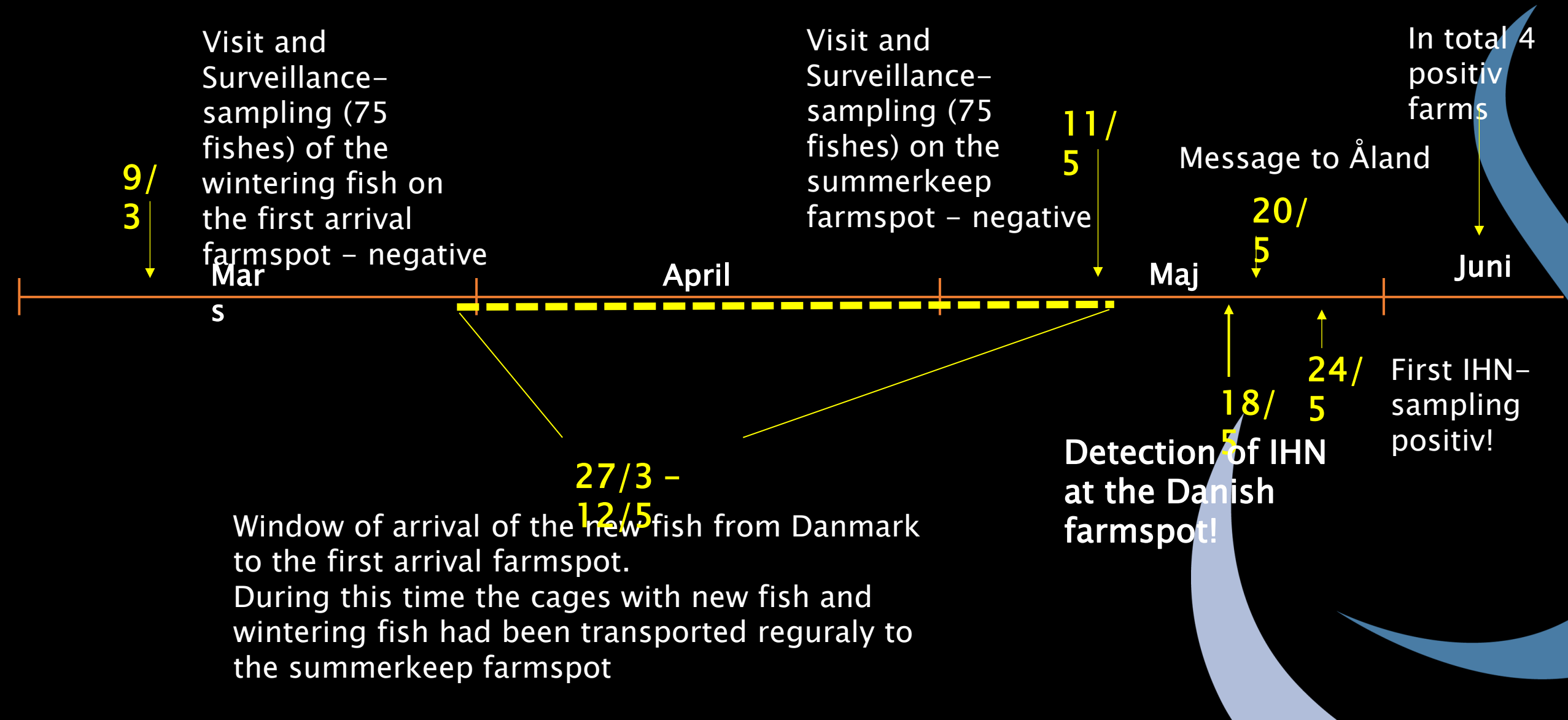
The system



Key experiences from fieldwork



Timeline beginning of IHN 2021



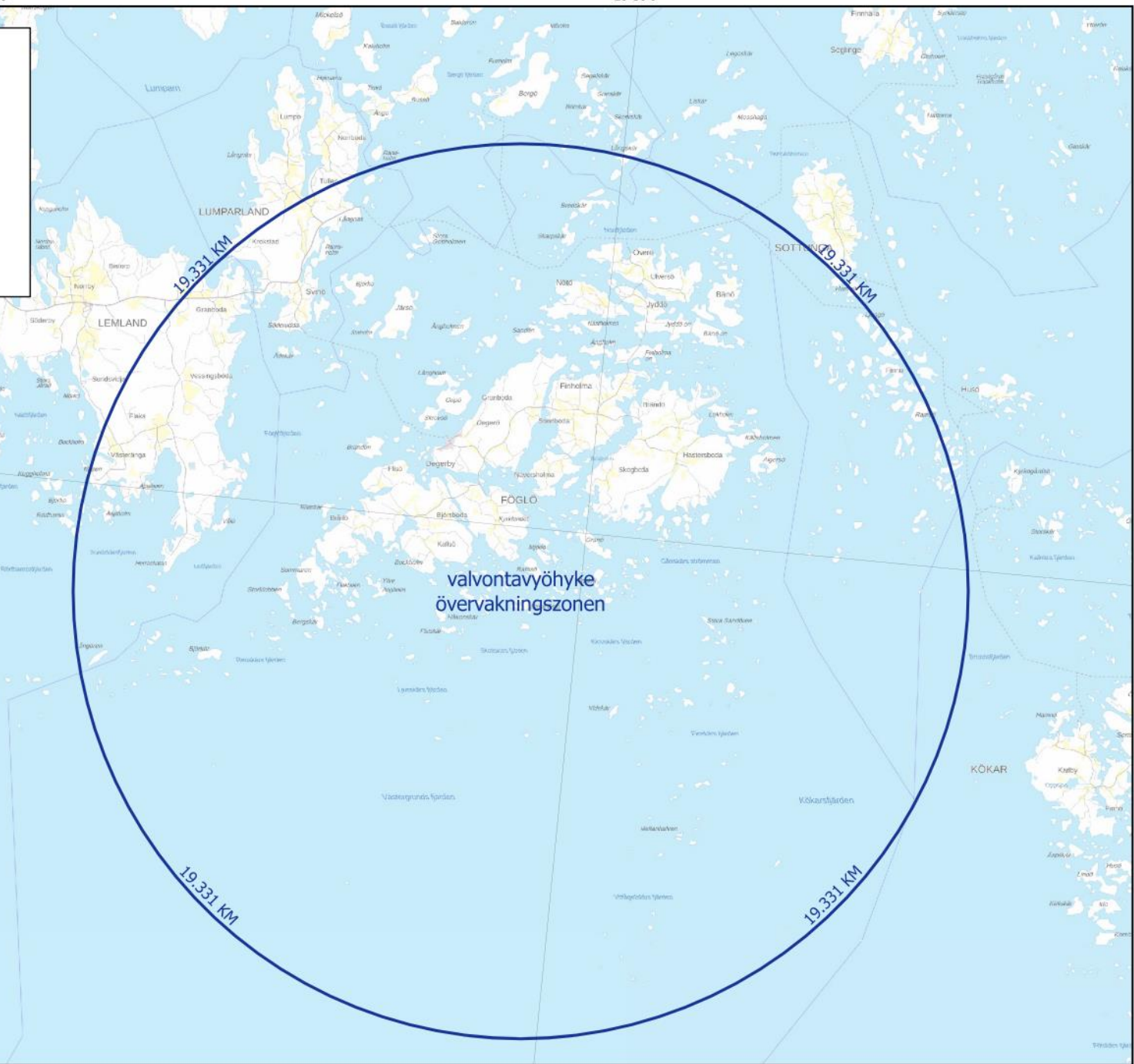
- June: In total 4 positive farms after initial breakout
- Oktober: + 1 positiv farm after secondary sampling outside the primary zone



**Final restriction
zone from
oktober 2021**

**8 farms and
one
slaughterhouse
whitin the
zone.**

**5 of the farms
became
infected during
the outbreak.**



IHN gave a good lesson of how hard it can be to discover diseases especially in the early stage and how fast it can spread.



High mortality is a very blunt weapon to detect if the fish is sick. It's hard to see an early stage or lowgrade state of disease in a fish cage.

- **Observe the fish. Don't just look at it.**
 1. Take a moment to only do that in your daily routine.
 2. Build in a routine where the only task is to watch the fish, preferably together with a ticklist so that you make it an active element in your worklist.
 3. What is a true "**slowswimmer/kantsimmare**" (lethargic fish at the edge of the cage)?

A good rule of thumb the fish can easily be catch by hand with the fishnet

When should you pay extra attention to those "lethargic slowswimmers"?

1. When some of the bigger wellgrown fishes starts to become lethargic or swim irregular. This is especially important to be observant of when the fish is getting closer to slaughterweight (> 2 years). Just a few ones should then be enough to rise suspicion.









This fish could still
swim around



This fish could not swim around, it was completely lethargic



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3. If there is clear difference between cages, especially if the fish in those cages are from the same group/batch

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- The role of the control system is not to manage companies/fishfarms. The role is to make sure that the companies/farms have the adequate managing-systems in place and help to identify possible deficiencies so the risks can be minimized.

The sampling is often good at finding what you aim at, but it has it's weaknesses

- Compare with the saying “As you ask, you get answers” (“som man frågar får man svar”) – (show in timeline)
- Normally the best way to sample is to try and find some lethargic slowswimmers. If you have something infectious lurking around they are normally the first ones to catch it.
- Remember that a sample is a snapshot of the situation as it is today, tomorrow things can change..

The control systems normal interval on a high risk farmingspot (FIN)

- 1–2 inspections/visits per year
- 1 sampling of thirty fishes per year or per every second year
- This intervals are even lower on lower risk farmingspots
- In EU legislation: the government sampling is just a recommendation, not mandatory!

- Put that control plan in a context of what we just spoken about concerning that it can be quite hard to spot fish disease, especially when it is low grade or in an early phase and that things can change quickly.

→ **The companies own biosecurity plan with its own risk analysis is super important to keep guard the rest of the time!**

- It comes from that the role of the control system is not to manage companies/fish farms. The role is to make sure that the companies/farms have the adequate managing-systems in place and help to identify possible deficiencies so the risks can be minimized.

The health certificate when importing from EU

- The health certificate that is issued upon importing from another EU-country certifies basically two things in reality. no more, no less.
 1. The fish comes from an area that is declared free of the infectious diseases in the monitoring programs (read viruses)
 2. The group of fish before departure does not show CLEAR symptoms of infectious disease (for example raised mortality, symptoms of acute disease)

Compare to a doctors certificate of a group af school kids in classrooms before departure in a schooltrip.

Do more sampling on your own

- Your best weapon to know if there is something going on!
- Don't hesitate to send in samplefish. If you have some "lethargic slowswimmers" it's never wrong to send them in. Even if it's only a few of them in the cage. The sample will still tell a lot more than if you rely on sample taken from healthy fish.

Ask the farms that you receive fish from if they have a result from a newly made sample.

If not, ask if they can do a new sample before sending fish to you.

Think about the biosecurity perimeter/zones

- Routine for what type of protective clothing visitors are supposed to wear
- Have some extra protective material/clothes ready
- Don't move between farms without considering the biosecurity
- The Virkon S –



- Good to have a box prepared with a couple of disposable coveralls, dishgloves, duct tape, thick disposable bootcovers and a roll of garbagebag.
- If you get involved in a disease outbreak, always think that you need two teams/persons in the longrun. One that work on the contaminated site and one that works with the noncontamineted workduties

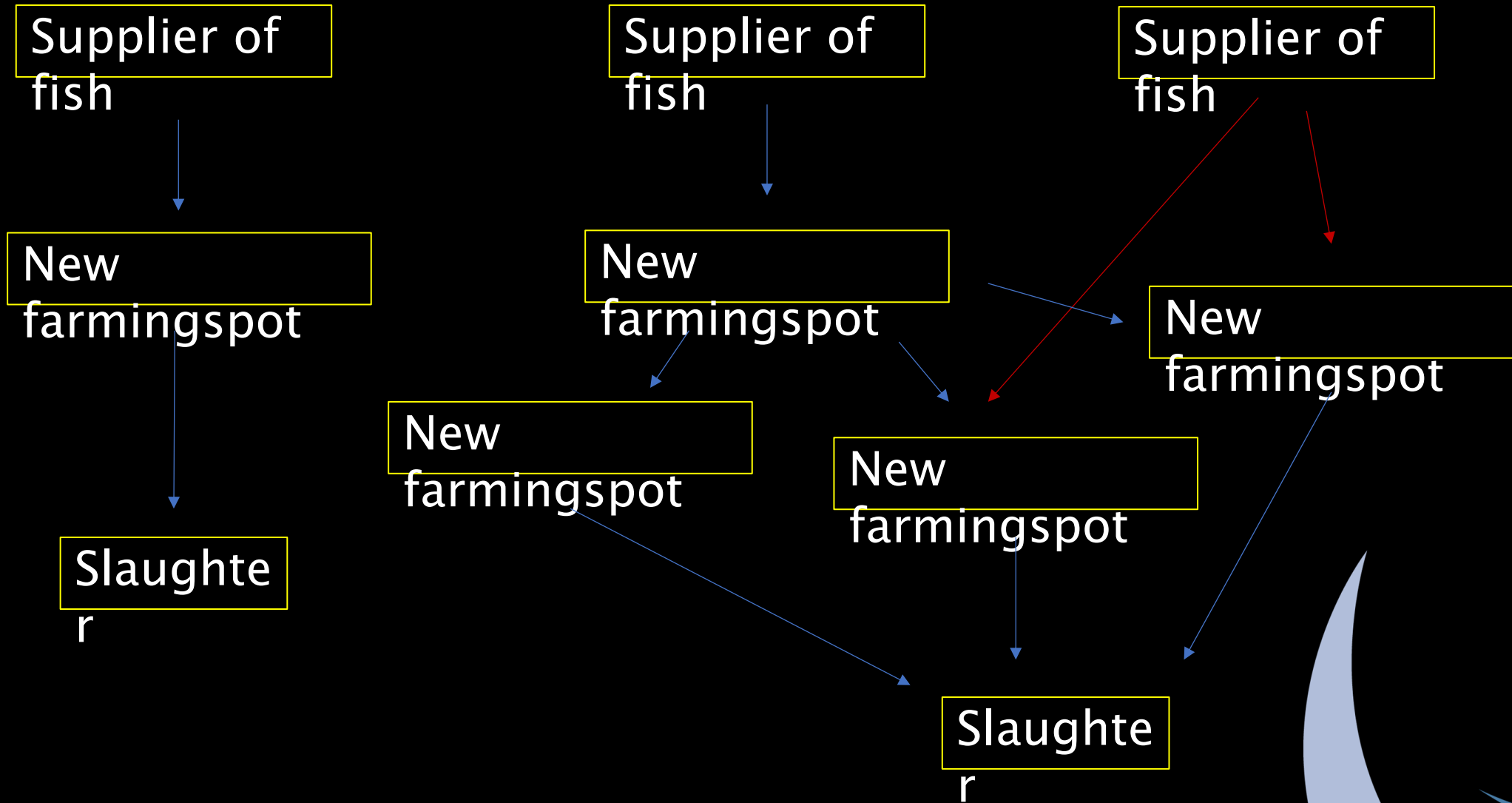
Takeaways

- Ask the supplier for a recent disease-sample of the fishgroup before the deliveries start.
- Observe the fish often and try to always be openminded when doing so.
- Don't be afraid to send in samples, it's never wrong.
- Go through the risk analysis every year and consider if anything needs to be changed.
- A biosecurityplan is necessary for the business and it's the guarantor versus other companies and authorities that the business is operating properly.

Thank you for your time!

Thoughts of how to put
this knowledge in use and
connecting it to the
biosecurity plan.





Exempel på kontrollfrågor som t.ex. en odlingsansvarig person ska kunna svara på med hjälp av biosäkerhetsplanen.

- Hur vet du att fisken är sjuk?
- Hur upptäcker du att fisken är sjuk?
- Vet du vad fisken kan bli sjuk av?
- Vet du var sjukdomen kan ha kommit ifrån?
- Vad gör du om du misstänker att fisken är sjuk?
- Vad gör du för att inte sprida en sjukdom vidare.
- Hur gör du med dina arbetskläder och skodon när du åker mellan odlingar?
- Vet du vem du ska ringa om du inte vet vad du ska göra?
- Kan jag svara på frågor om var fisken kommer ifrån?
- Hur vet jag om jag har en "onormal" dödlighet?
- Vet jag när man senast tog sjukdomsprover eller övervakningsprover på de odlingar som jag importerar fisk ifrån?