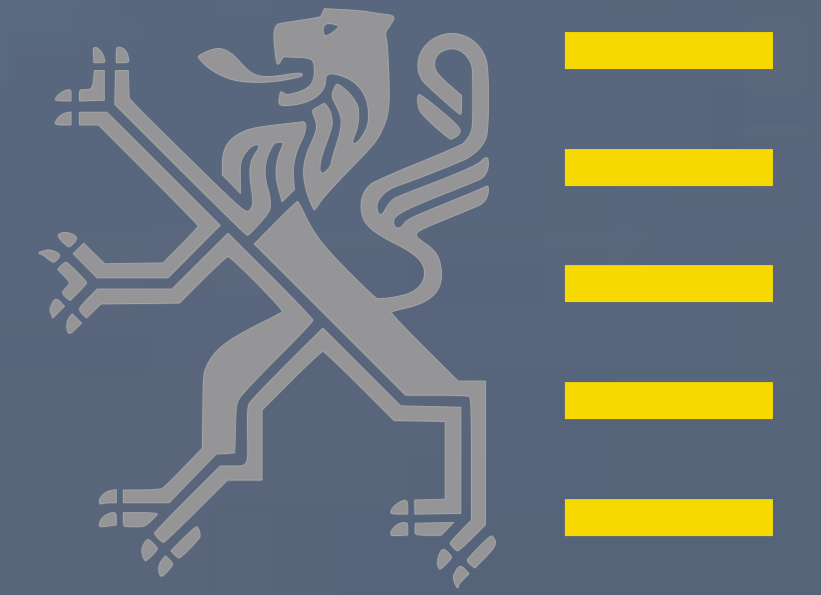


Patterns and Prevalence of Marine Fish Diseases and Parasites



Lisa Devriese, Karen Bekaert, Mattias Bossaer, Johan Robbens

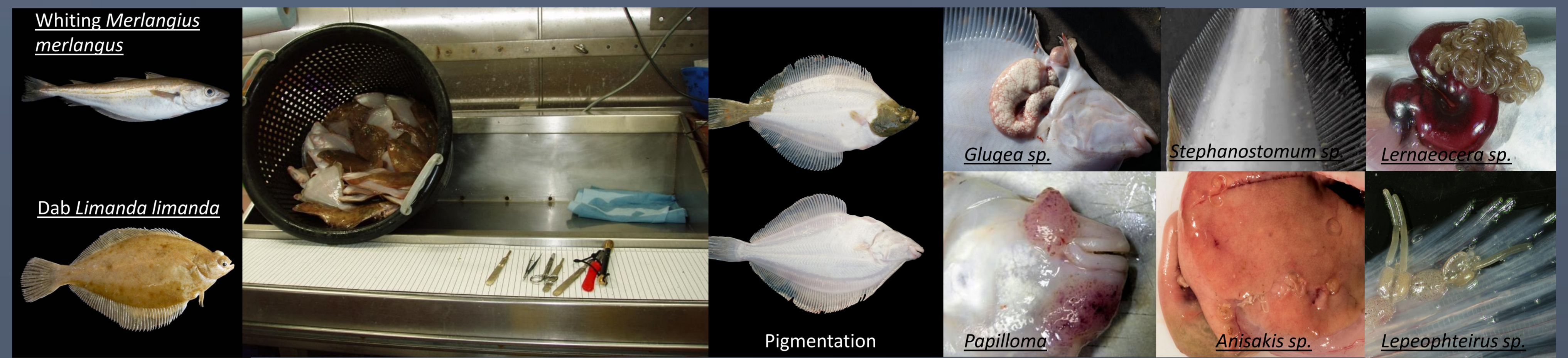
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Pictures: Hans Hillewaert



Fish Disease Assessment

- Biological Effect Technique
- Multifactorial Aetiology
- Host species: Whiting & Dab
- Area: Belgian Part of the North Sea
- Period: 1996-2011
- ICES guidelines (ICES TIMES N°19)

The assessment of fish diseases and numerous parasites focused on external and internal diseases (body, skin, gills and fins) on wild marine fish. The liver, spleen and intestines were excised and inspected for the occurrence of macroscopic nodules and other diseases.



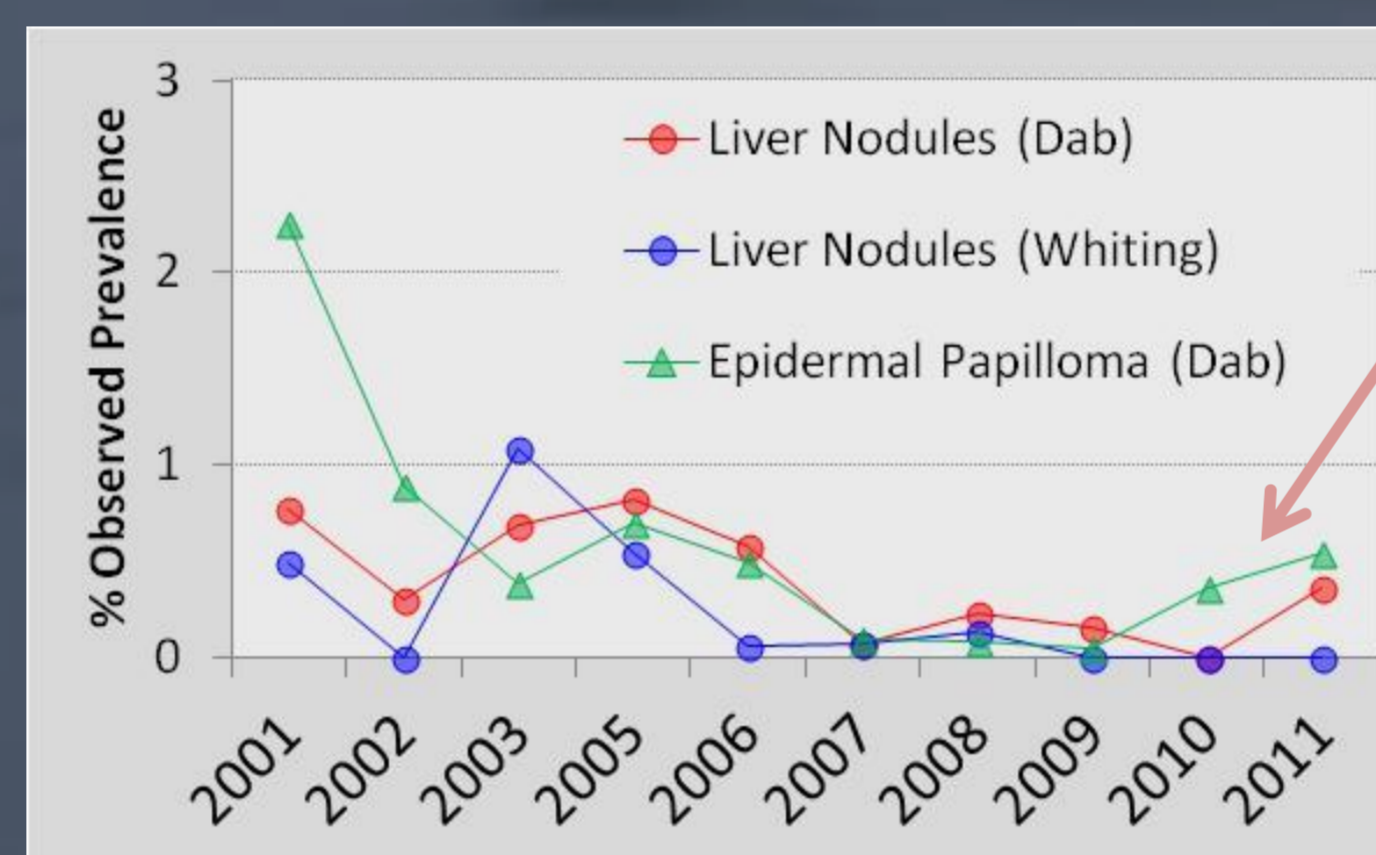
Background levels

Background levels or environmental assessment criteria for fish diseases are difficult to define due to the natural variation in disease prevalence on a temporal and regional scale.

Is it possible to use long-term prevalence data and model predictions as an assessment guideline or background level?

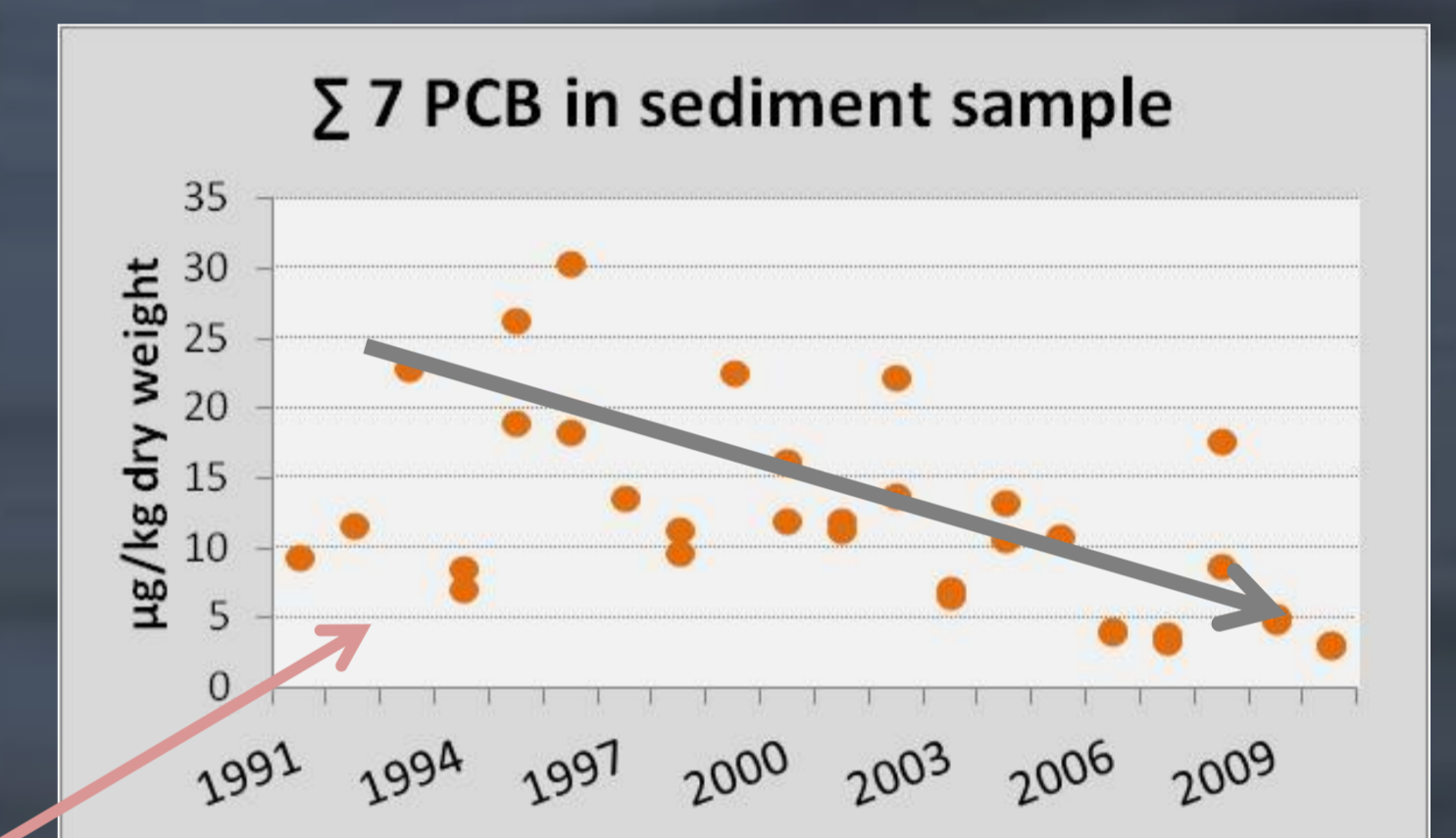
Non-parasitic infections:

- More severe diseases: *liver nodules, tumors, epidermal papilloma*
- Low prevalence, decrease since 2001
- Possible correlation: environmental contamination



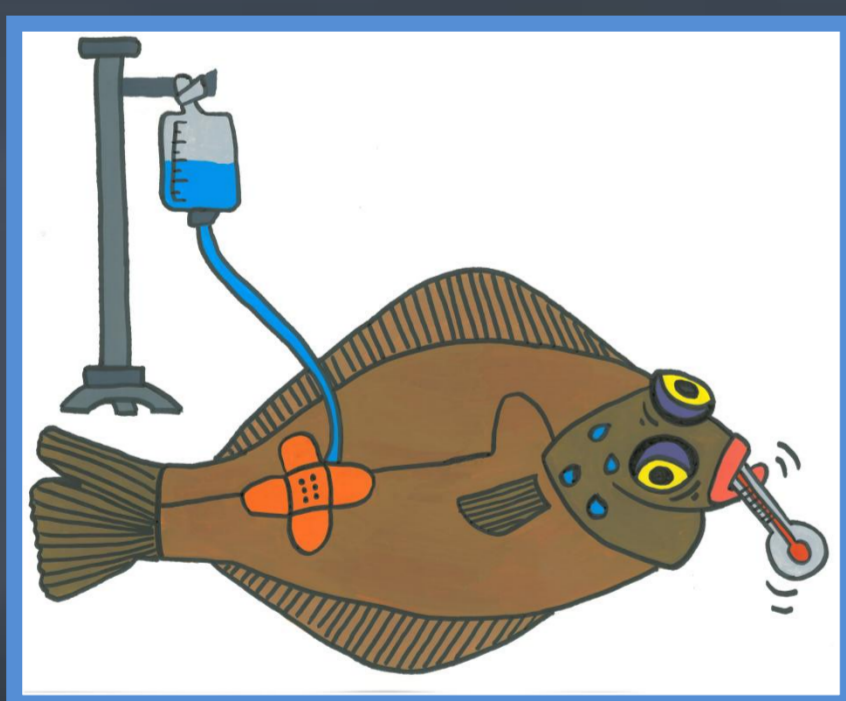
Decreasing Prevalence Pattern

Downward Trend

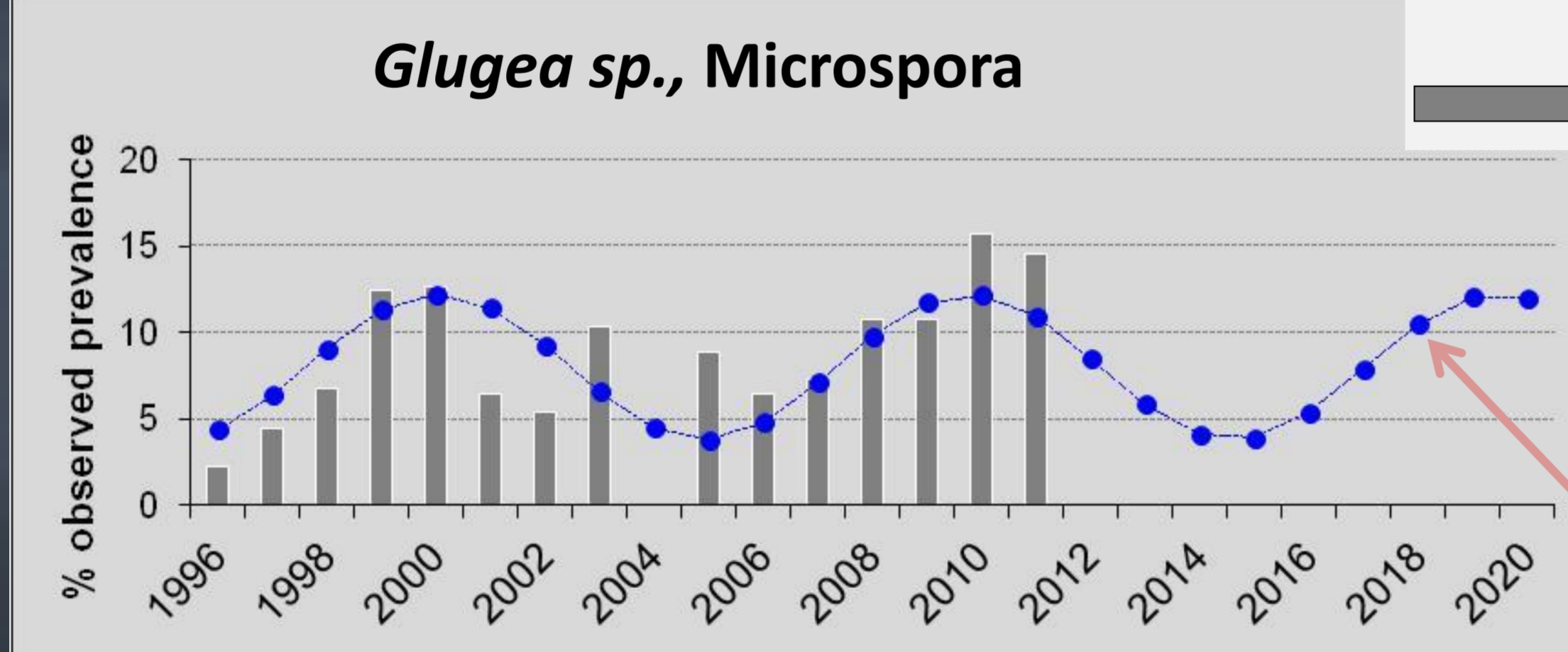


Parasitic infections:

Dab diseases



Fish: 15-25 cm n>100



Model Predictions
Data

Undulating Prevalence Pattern

Whiting diseases

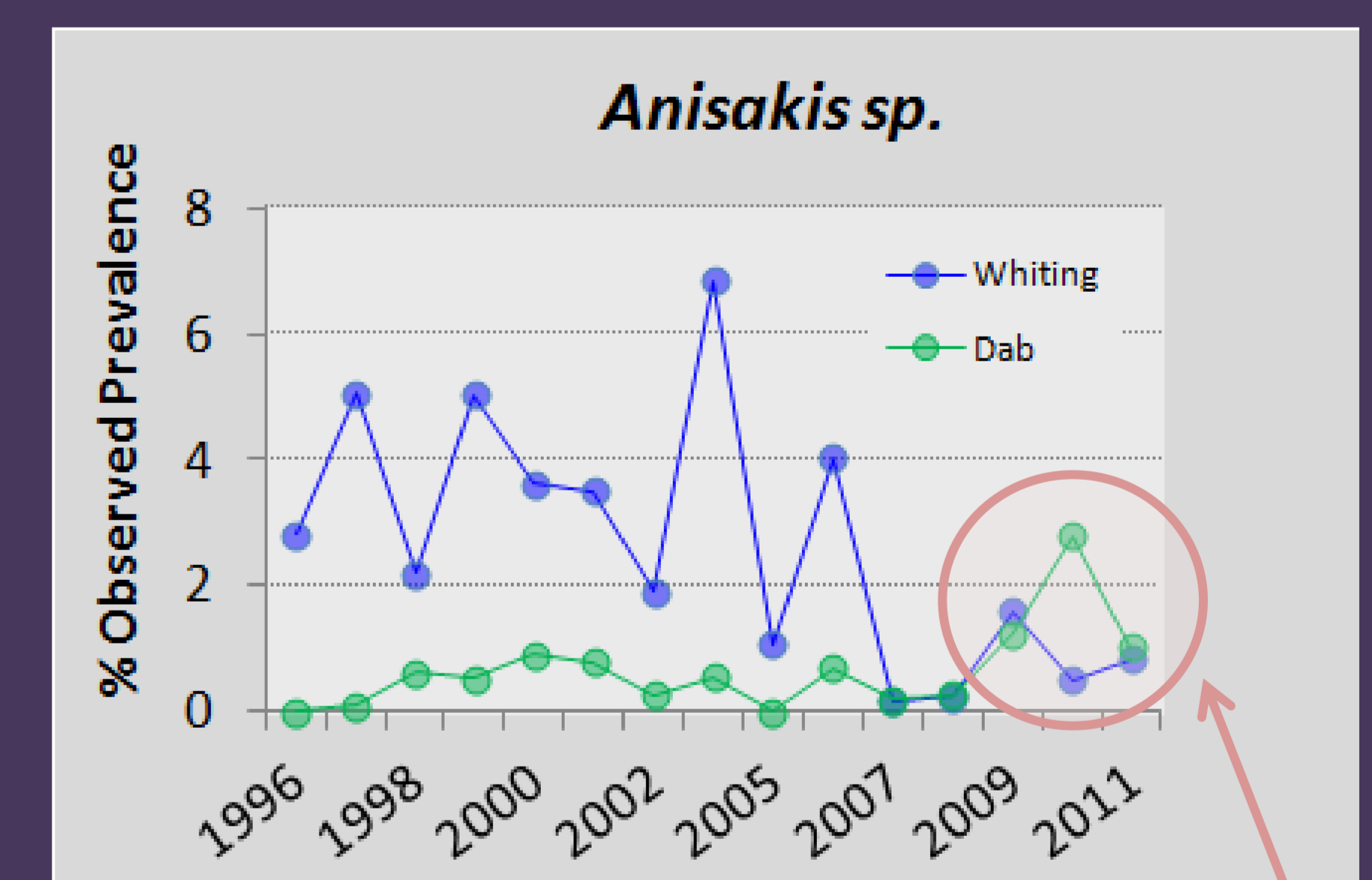


Fish: >15 cm n>100



Anisakis nematodes

- Are infective to humans – *Anisakiasis*
- Can cause allergic reaction



>2009: Increasing or Undulating Prevalence Pattern?

Conclusions

Severe fish diseases on the BPNS during 1996-2011:

- Low observed prevalence
- Decreasing prevalence pattern
- Prevalence: indicator for good environmental status
- No significant difference between sampling locations

Parasitic infections on the BPNS during 1996-2011:

- Mainly parasitic infections
- Often undulating prevalence patterns
- Difficult to predict prevalence, complicated as biomarker
- No significant difference between sampling locations

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