What do epidemiologists do?
Study distribution and spread of parasites and diseases.
This knowledge is used to understand processes of disease spread, which are used to devise effective controls.
Epidemiologists at FRS work on diseases such as IPN, ISA, sea lice and emerging diseases.

Existing data
Where possible, epidemiologists use data being collected anyway for other purposes
- Data collected by Fish Health Inspectors for regulation purposes is used to assess the spread of IPN in fish farms
- Fish farmers own data now becoming available to look at mortalities on farms and groups of farms
- Data on salmon mortality in natural population may be available from river salmon boards

Experimental data
Laboratory experiments are required for dynamics of infection
- Minimum infectious dose of viruses
- Progression of infection in infected fish
- Spread of infection between ‘cohabiting’ fish
- Shedding of viruses from infected fish
- Survival of larval sea lice under different environmental conditions

Modelling and analysis
Epidemiologists develop statistical and process models
- Relationships between wellboats and ISA
- Statistical analysis of IPNV emergence
- Dispersal of sealice larvae
- Risk analysis of emerging diseases
- Odds ratio case control study of IPN

Field Surveys
Epidemiologist design and conduct surveys to determine prevalence of pathogens
- Cruises to sample for viruses ISAV, IPNV, VHSV and for parasites of gadoid fish. Surveys include IPN in sediment, mussels and water
- Coastal sampling of larval sea lice
- Surveys for ISAV and IPNV in fish and for IPNV in larval fish in reds (nests). Inspection of fish caught in commercial salmon nets
- Questionnaire surveys

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