

Development of pink salmon genetic markers for the Alaska Hatchery Research Program

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Alaska Hatchery Research Program
Informational Meeting

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Alaska Hatchery Research Program

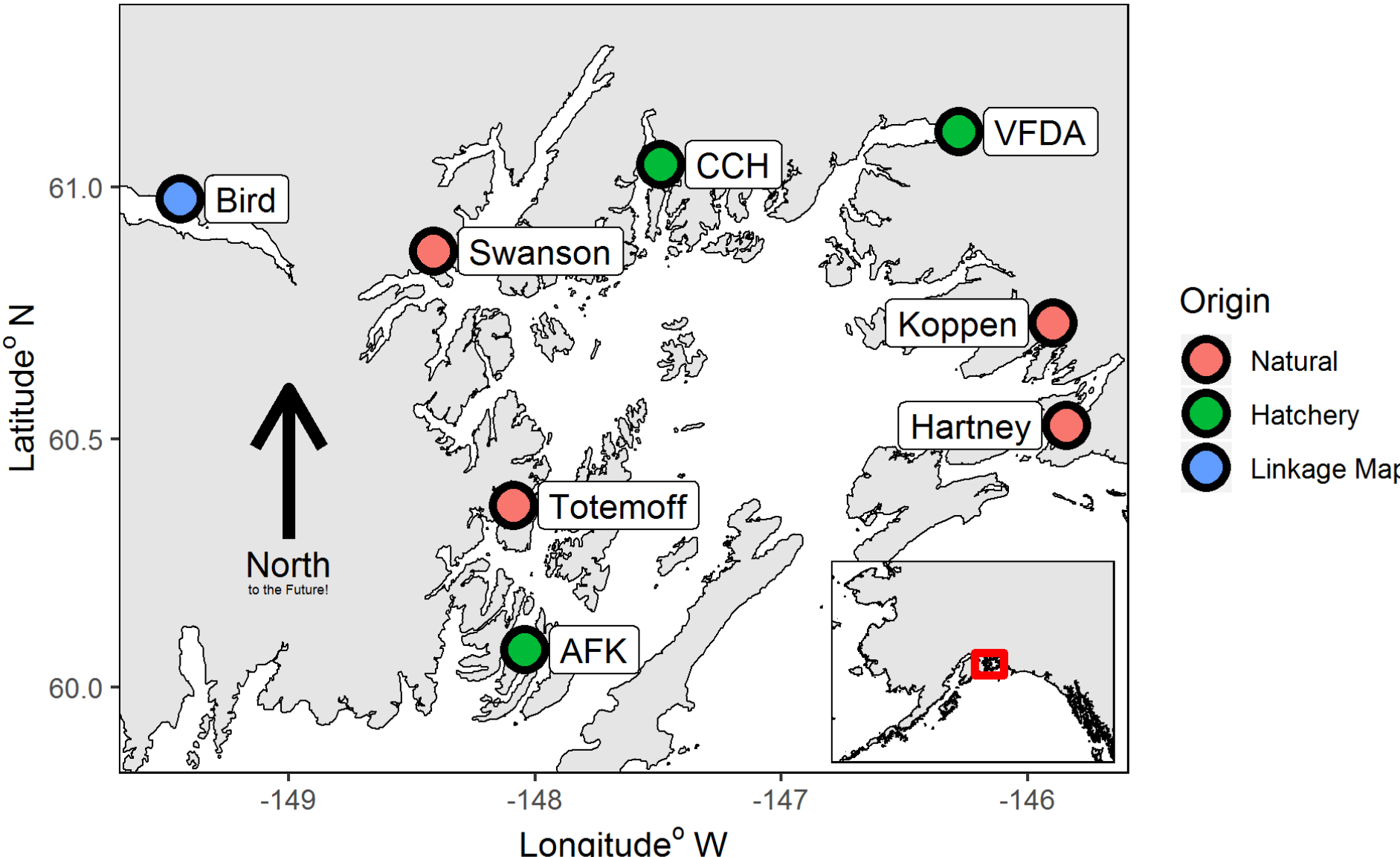
- 1) What is the genetic structure of pink and chum in PWS and SEAK?
- 2) What is the extent and annual variability of straying?
- 3) What is the impact on fitness (productivity) of natural pink and chum stocks due to straying hatchery pink and chum salmon?

Why did we need new markers?



- Traditional Pop Structure
 - 16 markers available
 - Very low throughput
 - \$\$\$\$\$\$\$\$
 - Not enough information content for parentage
- Available Old Chemistry
 - 51 markers available
 - Mid throughput
 - \$\$\$\$\$
- New Chemistry
 - Select 100s from 10,000s
 - High throughput
 - \$\$\$

Marker Discovery



Marker filtering and selection



Marker Development Final Result

- First GTseq panel (new chemistry) for pink salmon
- Refined optimization and validation across the range vital to success – model for future panel development
- Linkage map ensures markers distributed across genome
- 298 markers designed specifically for Prince William Sound pink salmon
- Genotyped ~56K samples with the panel
- Large time and cost savings for the fitness component of the Alaska Hatchery Research Program
- Manuscript in prep

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