

## OPERATING MODEL

1. **No Skipped Spawning,**  
 $\sigma RV_{Age} = \phi RV_{Age}$
2. Skipped Spawning
3.  $\sigma RV_{Age}$  steeper than  $\phi RV_{Age}$
4.  $\sigma RV_{Age}$  flatter than  $\phi RV_{Age}$

*Simulated Abundance*  
*Simulated Sex Ratio*  
*Simulated  $\sigma RV$  &  $P(\phi \rightarrow \sigma)$*

## SAMPLING MODEL

# of CKMR Samples Collected	# of CKMR Sampling Years
<b><math>10\sqrt{N}</math></b>	<b>3</b>
$0.5 * (10\sqrt{N})$	10
$1.5 * (10\sqrt{N})$	

Percent Relative Error (PRE)

## ESTIMATION MODEL

1. **HSPs & POPs in Likelihood,**  
 $H_{mt}^{OM} = H_{mt}^{EM}$
  2. Only HSPs in Likelihood
  3.  $H_{mt}^{OM} \neq H_{mt}^{EM}$
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- $\sigma RV_{Age}$  fixed at  $\phi RV_{Age}$
  - Estimate  $\sigma RV_{Age}$  and/or  $P(\phi \rightarrow \sigma)$

*Estimated Abundance*  
*Estimated Sex Ratio*  
*Estimated  $\sigma RV$  &  $P(\phi \rightarrow \sigma)$*