

Session 2 – Model Evaluation

Slide 1

- Overview
- Data-Driven Approach
- Biometric Principles
- Techniques
- Summary

Evaluating a model using
biometric principles...
Does it pass the laugh test?

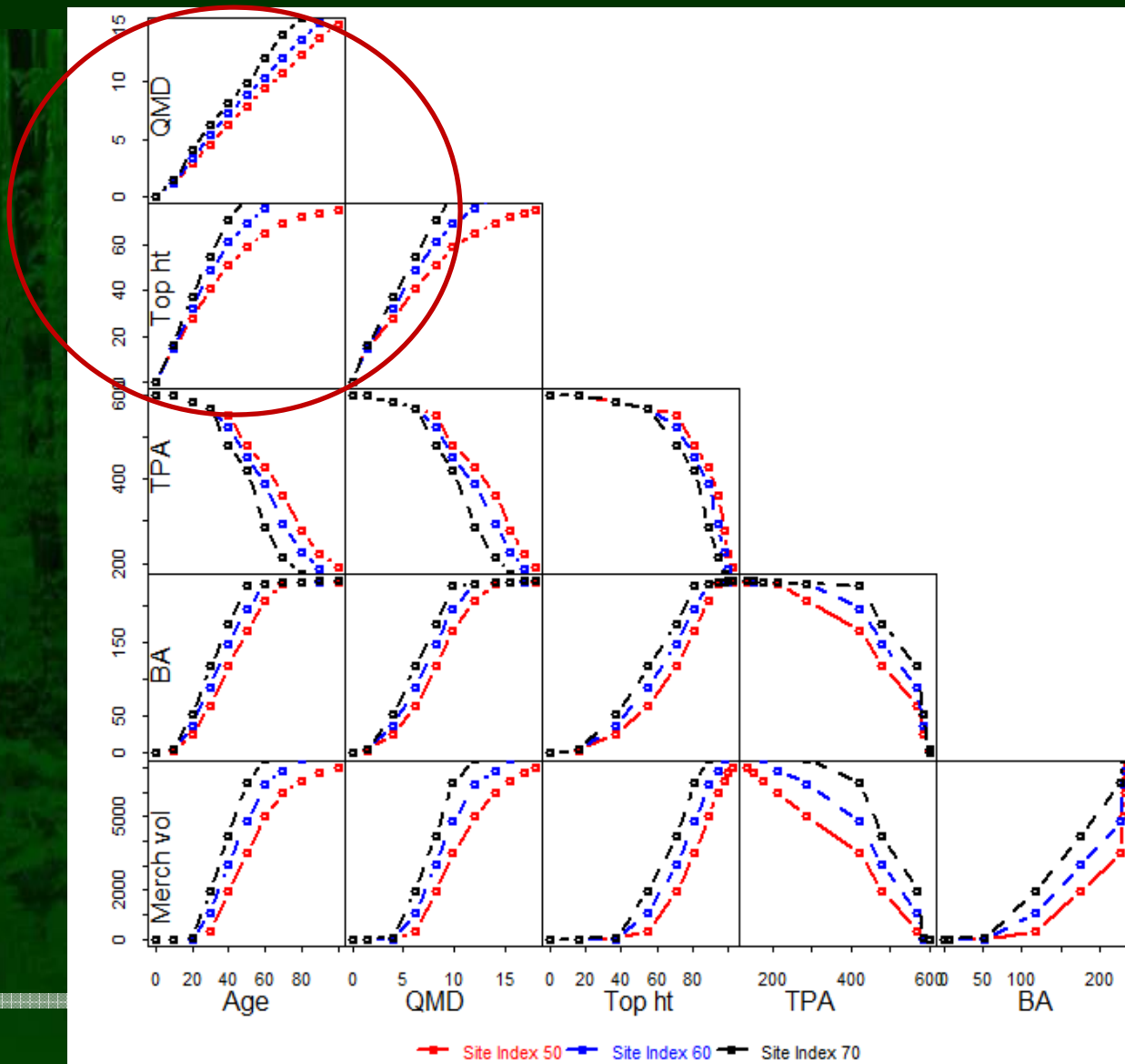
Evaluation with out data: Start Simple

- Create an even age tree list
 - Bareground plant or
 - Create a sapling tree list
- Grow forward 50-200 years without management.
- Set important site and or location factors

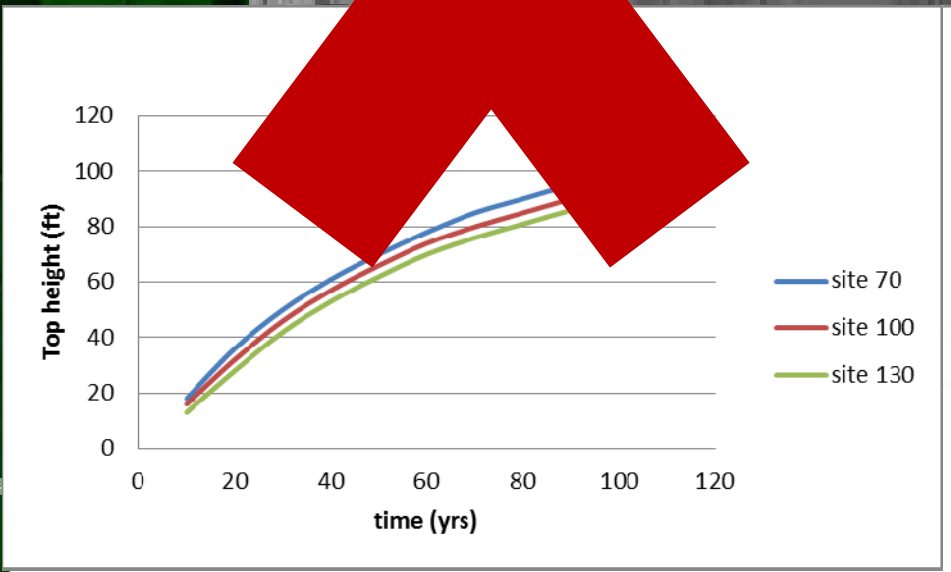
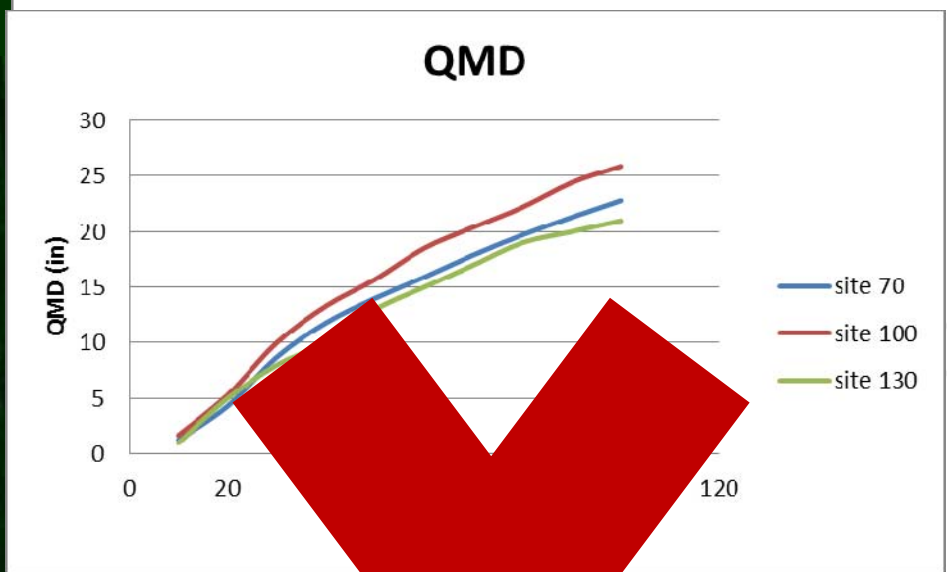
Evaluation with out data: Basic Checks

- Stand basal area increases through time
- Stand density (TPA) decreases through time
- Stand QMD increases through time
- All values of aforementioned stand metrics are within reasonable limits for each forest type being assessed.
- Dominant site height (ft) through time in is accordance with an assigned site index (SI) value for the species

Evaluation with out data: Bakuzis Matrix



Evaluation with out data: Productivity Effects

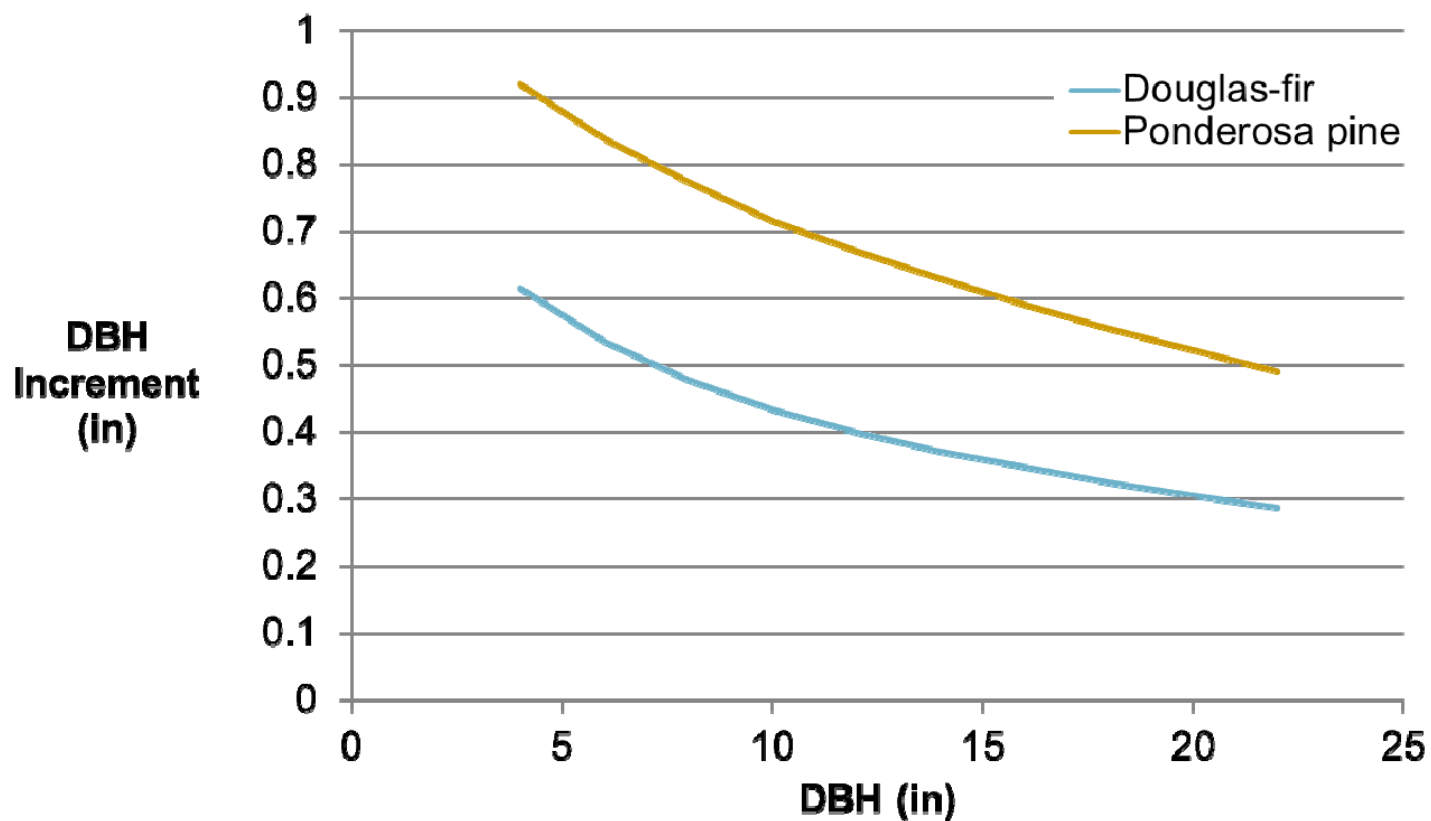


Does the model
fit the biological
expectation?

Evaluation with out data: Diameter Increment Check

{4.7.1.1} Used for FVS numbers 1-14, 17, and 23

$$\ln(DDS) = b_1 + (b_2 * EL) + (b_3 * EL^2) + (b_4 * \sin(ASP)) + (b_5 * \cos(ASP)) + (b_6 * SL) + (b_7 * SL^2) + (b_8 * CCF / 100) + (b_9 * \ln(DBH)) + (b_{10} * BAL) + (b_{11} * CR) + (b_{12} * CR^2) + (b_{13} * DBH^2) + (b_{14} * BAL / (\ln(DBH + 1.0))) + HAB$$



Evaluation with out data: Take home message...

Models are abstractions
from reality, but they should
still provide predictions that
biologically make sense.