

Lectures in Quantitative Fisheries Science

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Topical Outline

Squishy stuff

Organization and expectations

Production Models

The Logistic Equation

Harvesting, Part 1

MSY

Overfishing

Overfished

Computations

The Discrete Logistic

Nonlinear Dynamics

Harvesting, Part 2

Fishing Mortality

Fishing Effort

Catchability

Stock and Recruitment, Part 1

Beverton Holt and Ricker Stock Recruitment Relationships

Steepness and its Implications

Bioeconomics:

Bionomic Steady State

Fishery Dynamics

Discounting

Introduction to Stock Assessment

Observation error

Namibian Hake

Age-Structured Models

Basic Concepts of Demography

Life tables

R_0 and r

Reproductive value

Spawning Potential Ratio/Goodyear Compensation Ratio

Components of The Standard Age-Structured Model

von Bertalanffy model for length at age

Beverton GML theory and life history 'invariants'

Maturity ogives

Selectivity ogives

Yield Per Recruit

Stock and Recruitment, Part 2

Derivation of BHH and Ricker SRRs

Shepherd Stock Recruitment Relationship

The Full Age-Structured Model

Dynamics of Numbers

Yield

Connecting the Age Structured and Production Models
Steady State Analysis

Audience Supplied Topics (if time permits and interest persists)