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Strengths/Successes and Weaknesses/Challenges in Fish Stock Assessment

(from Day 4)

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External Review of Fisheries Stock Assessments

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(Day 4)

Strengths/Weaknesses: F-Independent Survey

- First multi-method fishery-independent survey in Hawaii
- Has non-extractive methods
- Proper experimental design
- Cooperative research with very involved fishermen
- May provide an absolute measure of abundance

- Only research fishing and sonar can be used day and night
- Species can confound the sonar
- Challenging to maintain standard seasonal pattern each year
- Spatial analysis recommended to increase efficiency of the survey
- Not yet contributing to the assessment
- Need to reach finish line on development and go operational
- Need to determine minimum required methods, precision, and frequency (i.e. research fishing and BotCam; samp0le sizes, how often)

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(Day 4) Habitat and Strengths/Weaknesses: Ecosystem

- Environmental input is most useful when multiple states affecting stocks are seen (i.e. regime shifts)
- Environmental data provides auxiliary information on possible impacts & futures even when not used directly in assessment
- Insight to be had from comparing ecosystem to assessment models
- Ecosystem models can complement assessment by giving system yields, which due to interactions are less than sums from single spp
- Predation series could help explain recruitment or mortality variation

- No full-time ecosystem modeler
- Environmental indices require resources to provide and can be qualitative and ambiguous
- Not yet used much in assessment, and should find collaborative opportunities to do so
- Often a lack of independence of ecosystem models from stock assessment models (i.e. production to biomass ratio, life history and stock recruitment assumptions)

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Strengths/Weaknesses: SA Research

(See specific powerpoint for SWOT)

- Stock assessment (SA) being explored and innovations implemented judiciously each time an assessment is revisited
- Innovations are being published

- No more than 10-20% of stock assessment scientists time available for research and innovation
- Need more use of multiple models to compare assessment outputs
- Most important input improvements are F-independent survey and more life history information
- The latter should be advanced through University collaboration and graduate student sponsorship

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Strengths/Weaknesses: (Day 4) Opportunities and Needs

- Very Strong Cooperative Research Program
- Successfully Leveraged Expanding Technologies to Facilitate Data Collection
- Poised to Initiate a Coral Reef Fish Stock Assessment Initiative
- Good Relationship with Constituents

- Sustained National Stock Assessment Training Program
- Expand and promote intra- and inter-agency partnerships
- Prioritization of Research – More and more and more with less is a recipe for failure
- Sustained Funding to Support F-I Insular Surveys in the PIR.
- Sustained Funding to Support International Agreements in the Pacific (RFMOs & RFOs)
- Economic Analyses to Interpret CPUE and Fisherman