



NMFS Southwest Fisheries Science Center Central Valley Chinook Life-Cycle Model Workshop Update

November 6, 2017

CSAMP Meeting

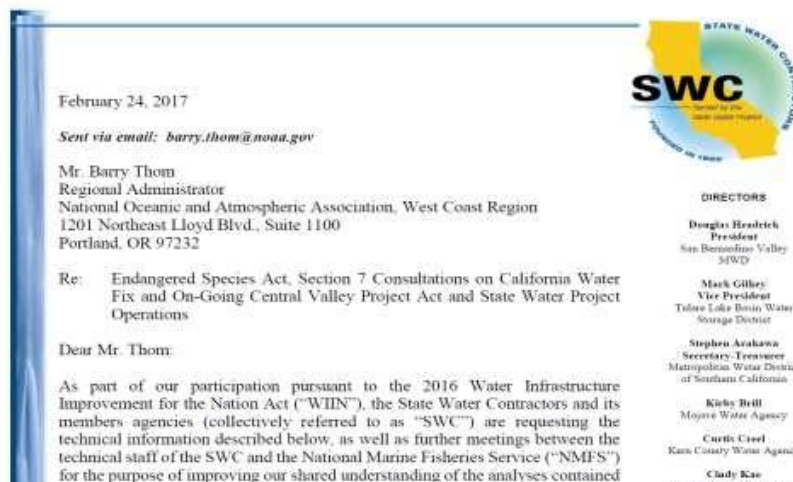
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Katrina Harrison, Reclamation
Corey Phillis, Metropolitan

Agenda

- ▶ Background
- ▶ Objectives
- ▶ Workshop Update
- ▶ Management Questions
- ▶ Next Steps

Background

- ▶ Novel method with little previous application before CWF
- ▶ Stakeholder questions about model and application, including State Water Contractors letter from February 2017
- ▶ Workshops requested in response to anticipated use by Reclamation in ROC on LTO



Life-Cycle Model Workshops

- ▶ Four completed, one more planned (January 2018)
- ▶ Attendees represent:
 - ▶ Cramer
 - ▶ Metropolitan
 - ▶ SLDMWA
 - ▶ Contra Costa WD
 - ▶ TCCA
 - ▶ SWC
 - ▶ SFWCA
 - ▶ Regional San
 - ▶ Westlands
 - ▶ GCID
 - ▶ CDFW
 - ▶ NOAA
 - ▶ Reclamation
 - ▶ DWR
 - ▶ USFWS
 - ▶ TU
 - ▶ DSC

Life-Cycle Model Workshops

- ▶ Topics include:
 - ▶ Model overview and static scenarios
 - ▶ Enhanced particle tracking model (ePTM)
 - ▶ Habitat capacity module
 - ▶ Characterization of fish screens
 - ▶ Application to management questions

Highlights

- ▶ Evaluation of sub-models that drive through-Delta survival
 - ▶ Calibration of ePTM was extensive and intense
 - ▶ Alternative “behaviors” can now be evaluated
- ▶ Accounting for past/ongoing mitigation
 - ▶ Recalibration soon with revisions for screens
- ▶ How model informs flow- and non-flow-related actions
 - ▶ Increased understanding of habitat functions
 - ▶ High demand for model to inform habitat, flow, and temperature management challenges
- ▶ SWFSC making revisions

Management Questions Exercise

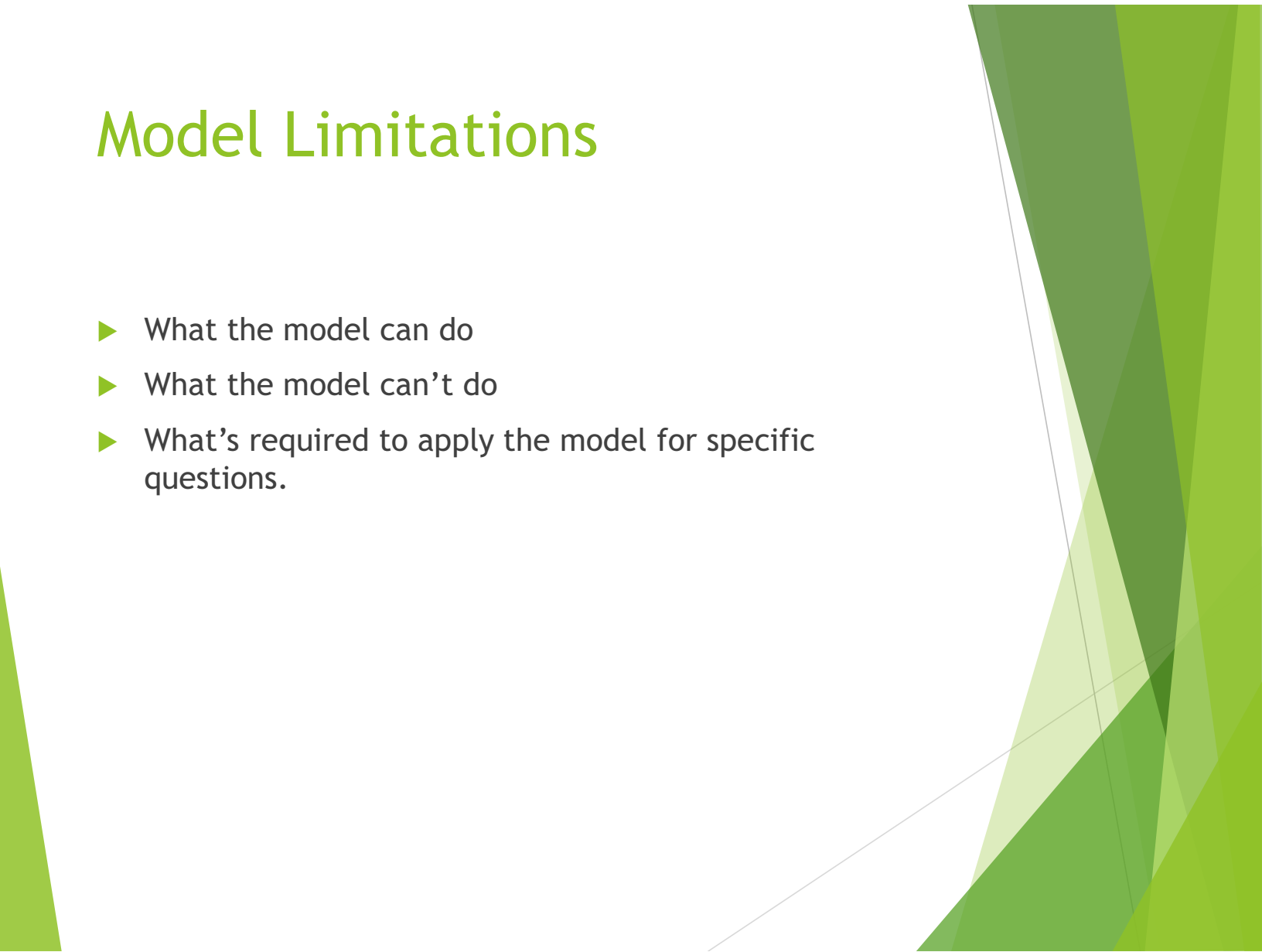
- ▶ Reviewed 25 stakeholder-submitted questions
- ▶ Identified model's ability to address the question (or not)
- ▶ Prioritized questions for testing
- ▶ Discussed limitations and model capabilities

Priority Management Questions

- ▶ RPAs:
 - ▶ E.g., How do river flows, outflow, and export operations affect survival and population growth?
 - ▶ E.g., How does temperature compare to other sources of mortality?
- ▶ Restoration and Habitat:
 - ▶ E.g., How do floodplain or shallow water tidal habitat restoration improve growth and survival?

Model Limitations

- ▶ What the model can do
- ▶ What the model can't do
- ▶ What's required to apply the model for specific questions.



Next Steps

- ▶ Model application to management questions
 - ▶ Continue conversation
 - ▶ Identify priorities for development
 - ▶ Relate to conceptual models
- ▶ January workshop
- ▶ Resources website
 - ▶ <https://swfsc.noaa.gov/ChinookLCM>
- ▶ Identify long-term technical engagement