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A collaborative review process supports better outcomes from environmental modelling

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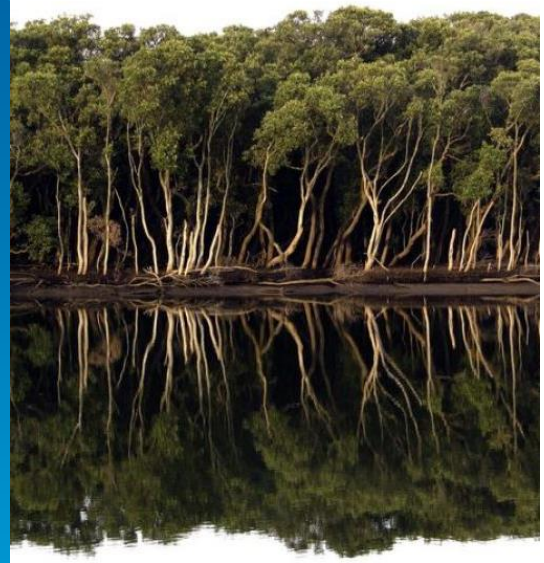
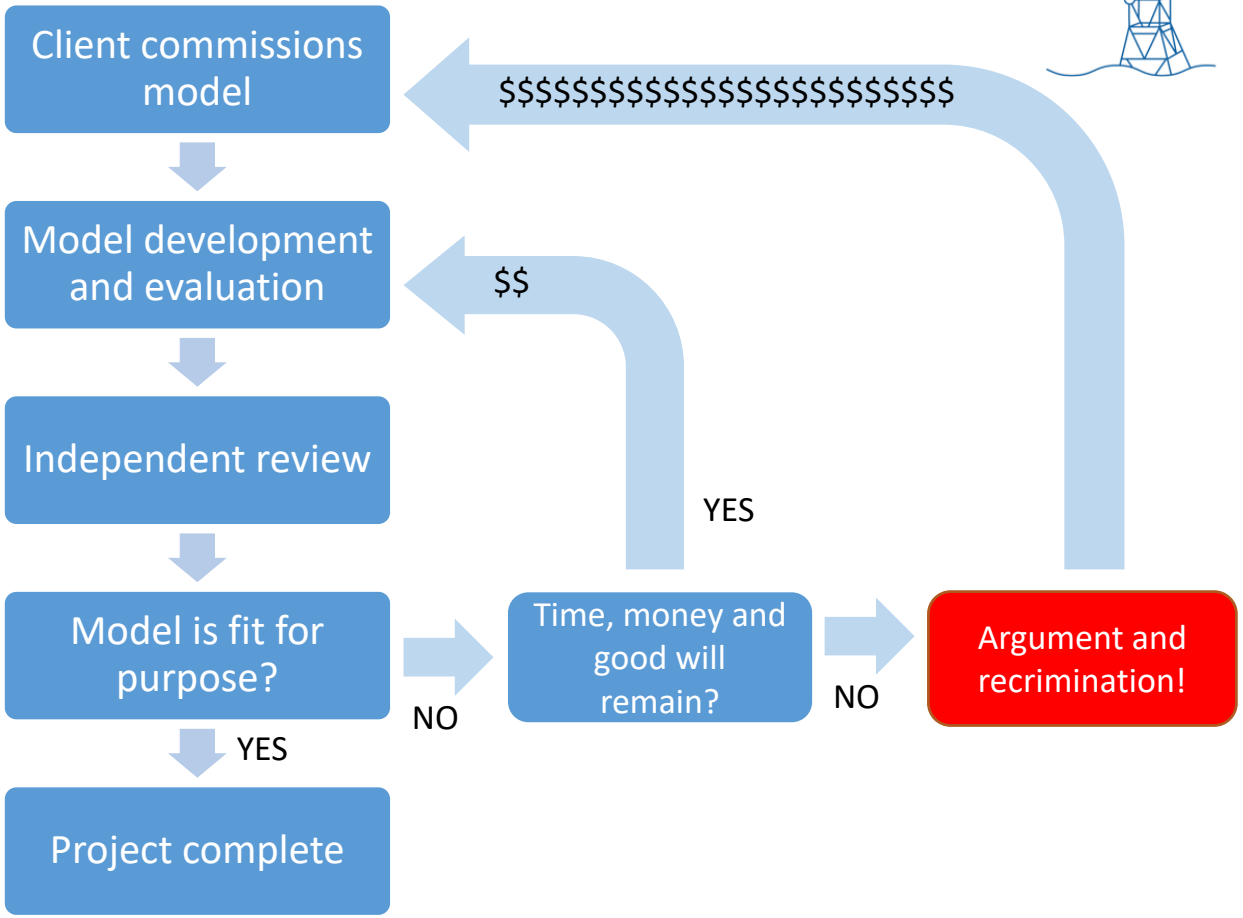
Traditional *Post Hoc Review* Process





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Collaborative Review Process

Client, modelling team and review team

Model and independent reviewers commissioned

Data collated

Data and data collection plan reviewed and discussed. Client needs clarified.

Model framework and methods planned

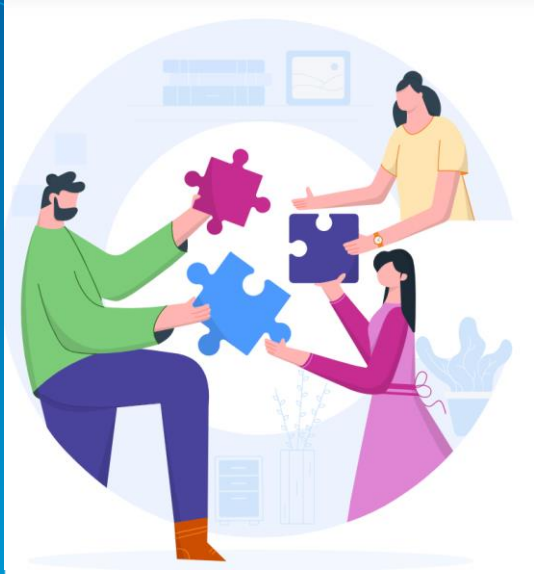
Suitability of model framework and methods reviewed and discussed. Improvements agreed. **Model evaluation approach agreed.**

Model development

Peer advice re model development

Collaborative model evaluation

Final fitness for purpose report. Future needs discussed.



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HUNTER WATER

Client perspective

"A post-hoc peer review would be less effective as there would be far less opportunity to revise model design and development."

"The peer review was a resounding success… and also greatly assisted the Hunter Water project team in expanding their knowledge of aquatic modelling processes generally, and of the models used in particular"

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UNSW WRL

and

NSW DPIE

Modelling team perspective

"It was extremely valuable to have early, continuous and collaborative input integrated into the project milestones."

"The integrated review process provided a consistent yet alternative perspective."

"The modelling team was able to understand the critical issues for the reviewers and modify our approach, remaining flexible and avoid committing unnecessary resources to a task."

"The typical 'master-slave' relationship didn't exist."

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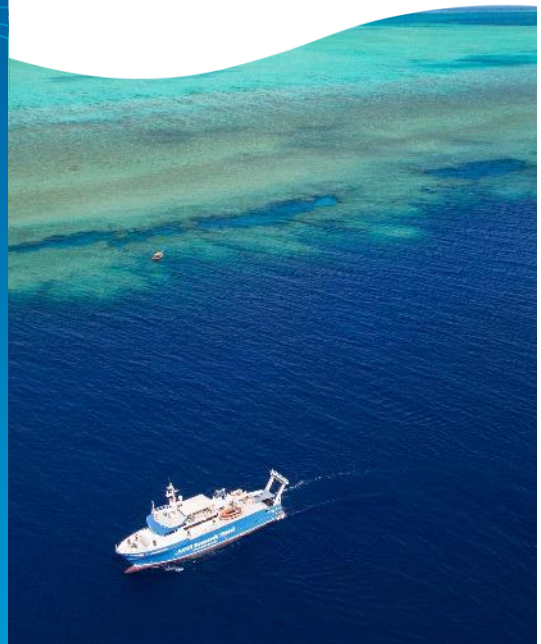
CSIRO

and

AIMS

Review team perspective (CSIRO & AIMS)



"The collaborative review process gave us the opportunity to identify potential problems before too much had been invested in the models."

"Where there was disagreement regarding how to proceed, the client was able to make a decision that prioritised their needs and considered the capabilities and limitations of the models to be developed."

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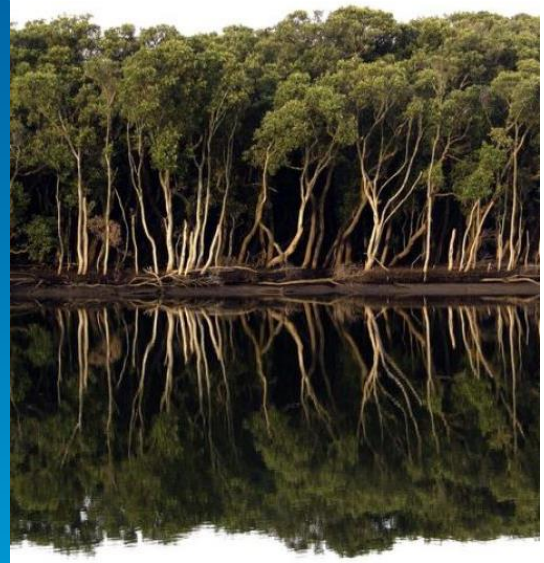
CONCLUSIONS

Advantages of collaborative review

- Issues are identified early in model development when they are easier to fix ($$ and time saved)
- Reduced potential for conflict
- Client is part of the conversation
  - Reviewers better understand client needs
  - Client better understands the models, their limitations and trade-offs in development



Risks and costs

- More reviewer time required ($ cost)
- Care required to maintain reviewer independence

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AIMS: Australia's tropical marine research agency.

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Thank you!