Moro Cojo water levels Preliminary analysis and model results

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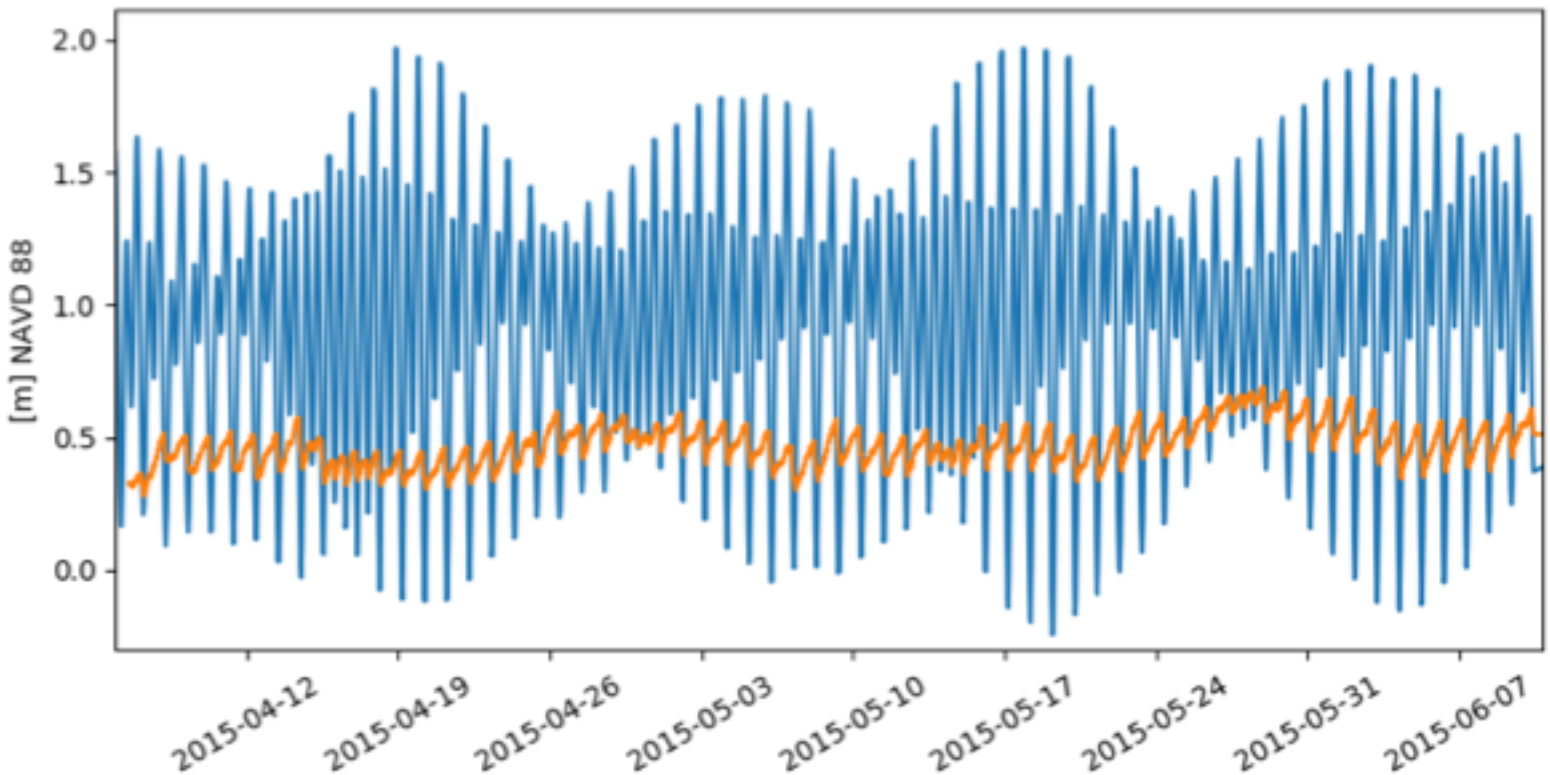
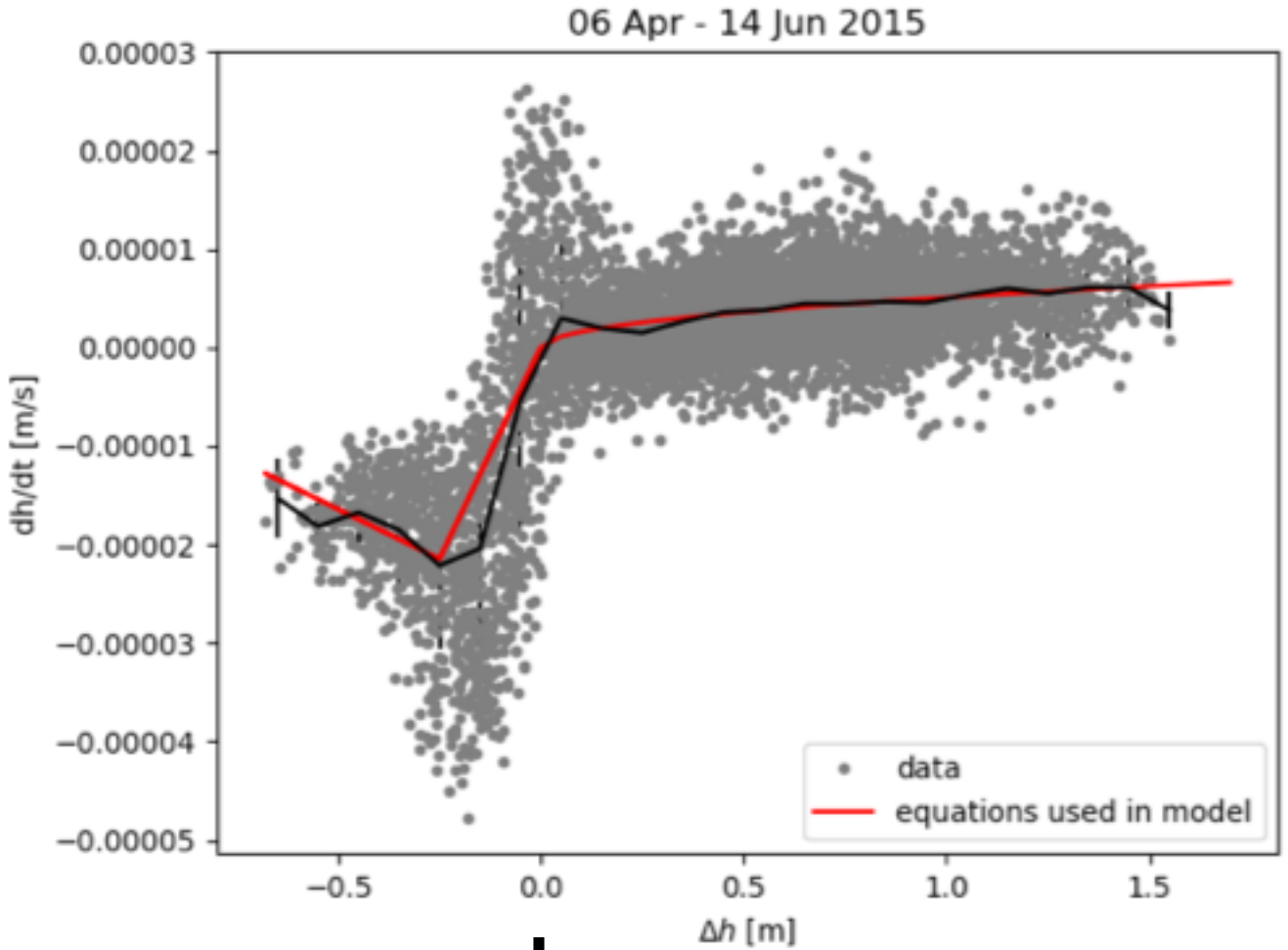
Monterey and Moro Cojo water levels



After tide gate failure

Before repair

Period used to develop model for “Scenario A” - failed tide gates



Ocean water level lower than Moro Cojo

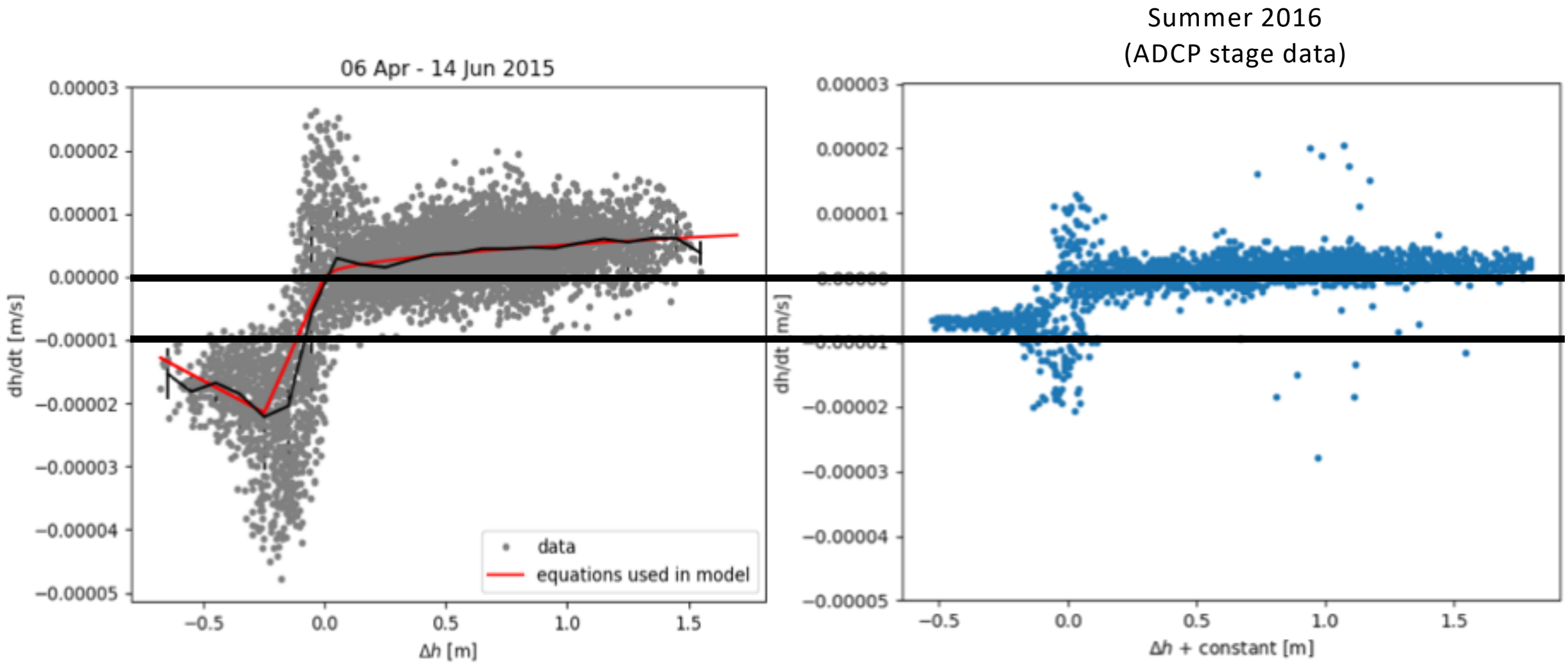
Ocean water level higher than Moro Cojo

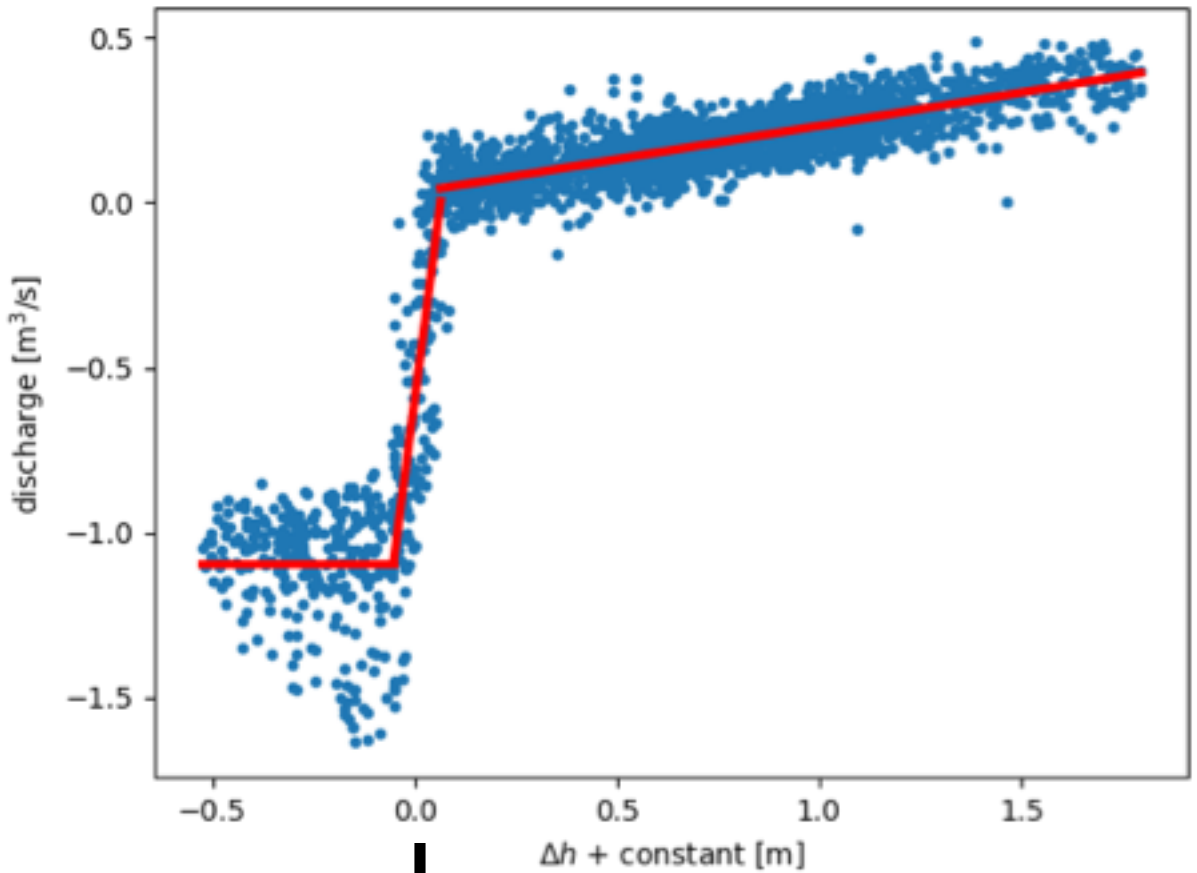
After tide gate failure

Before repair

Period used to develop model for “Scenario A” - failed tide gates

Comparison before and after repairs





Ocean water level lower than Moro Cojo

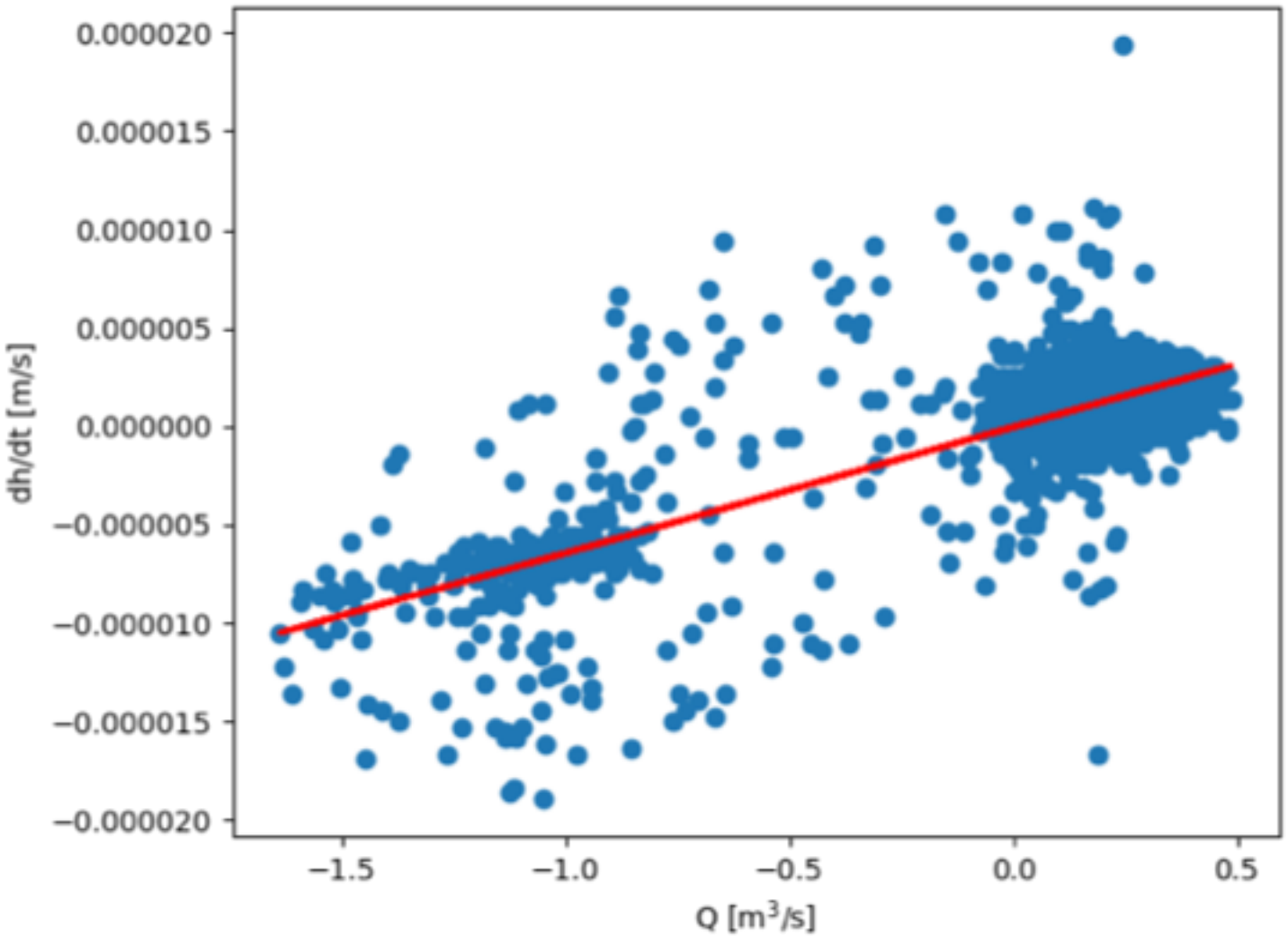
Ocean water level higher than Moro Cojo

After tide gate repair

ADCP data

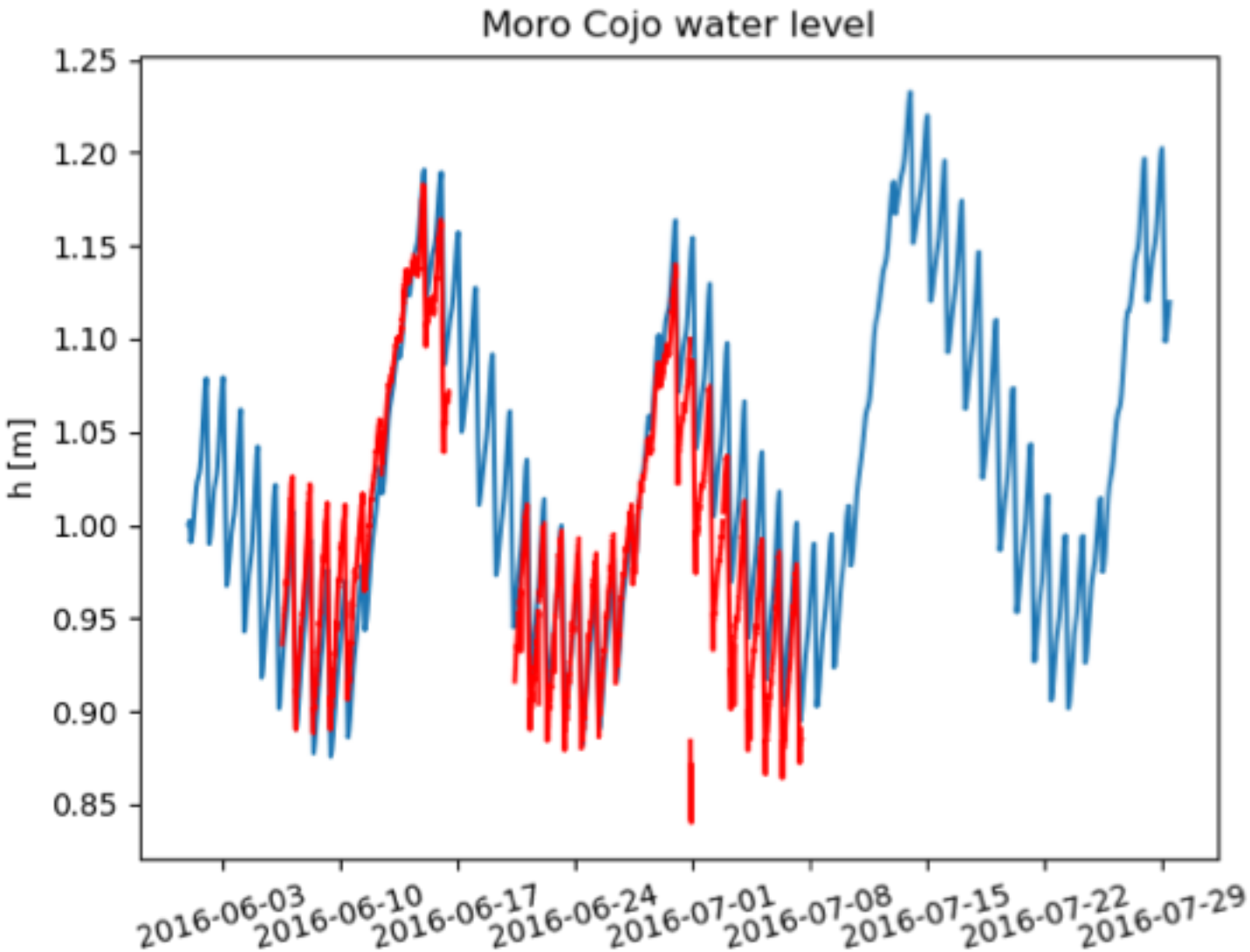
Function used for model equations for scenario “B” – repaired tide gates

(note: discharge ≈ area*dh/dt)

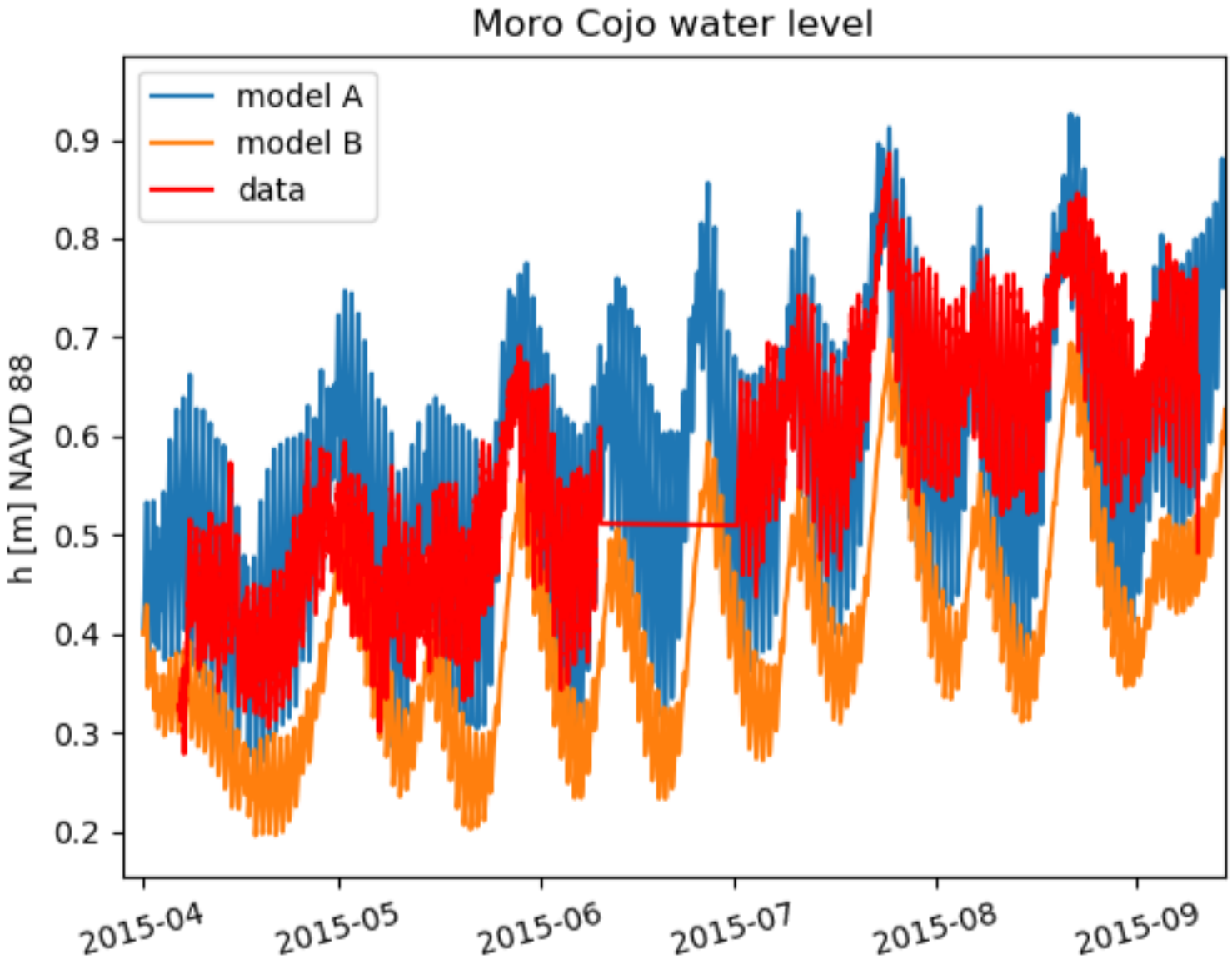


Relationship between discharge (Q) and dh/dt from ADCP (summer 2016)

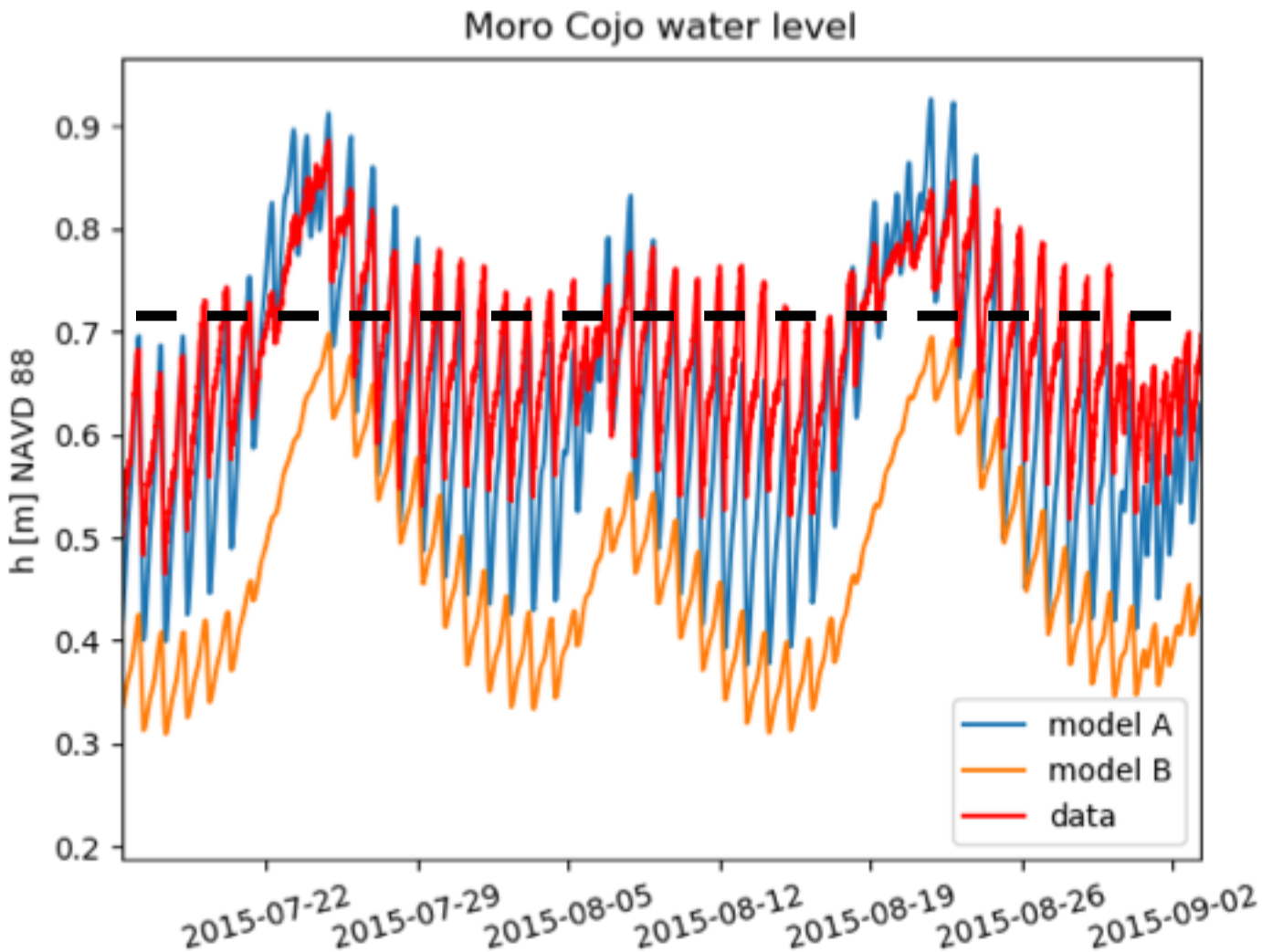
Slope of line indicates area of approximately 157,000 m^2



Model-data comparison
Summer 2016

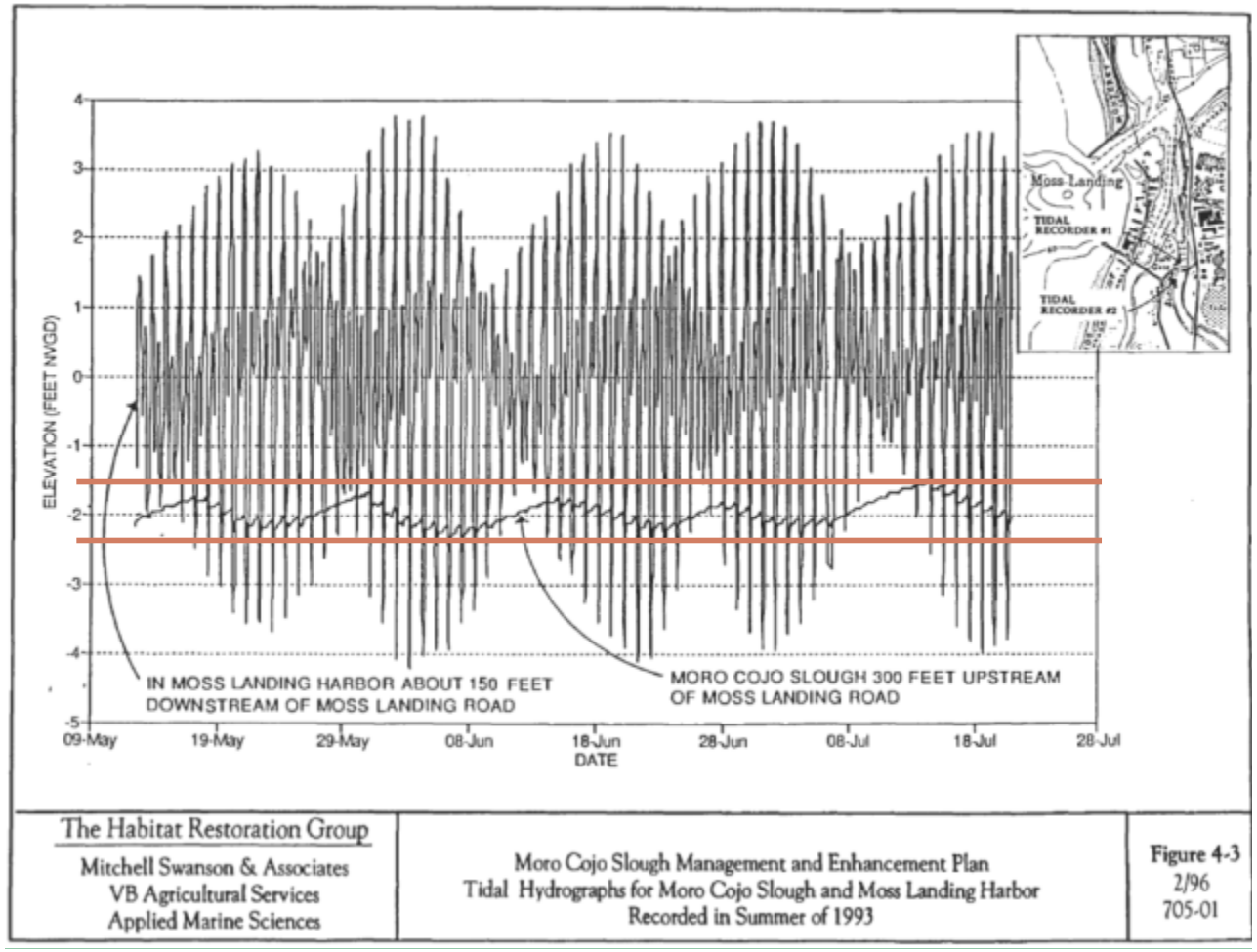


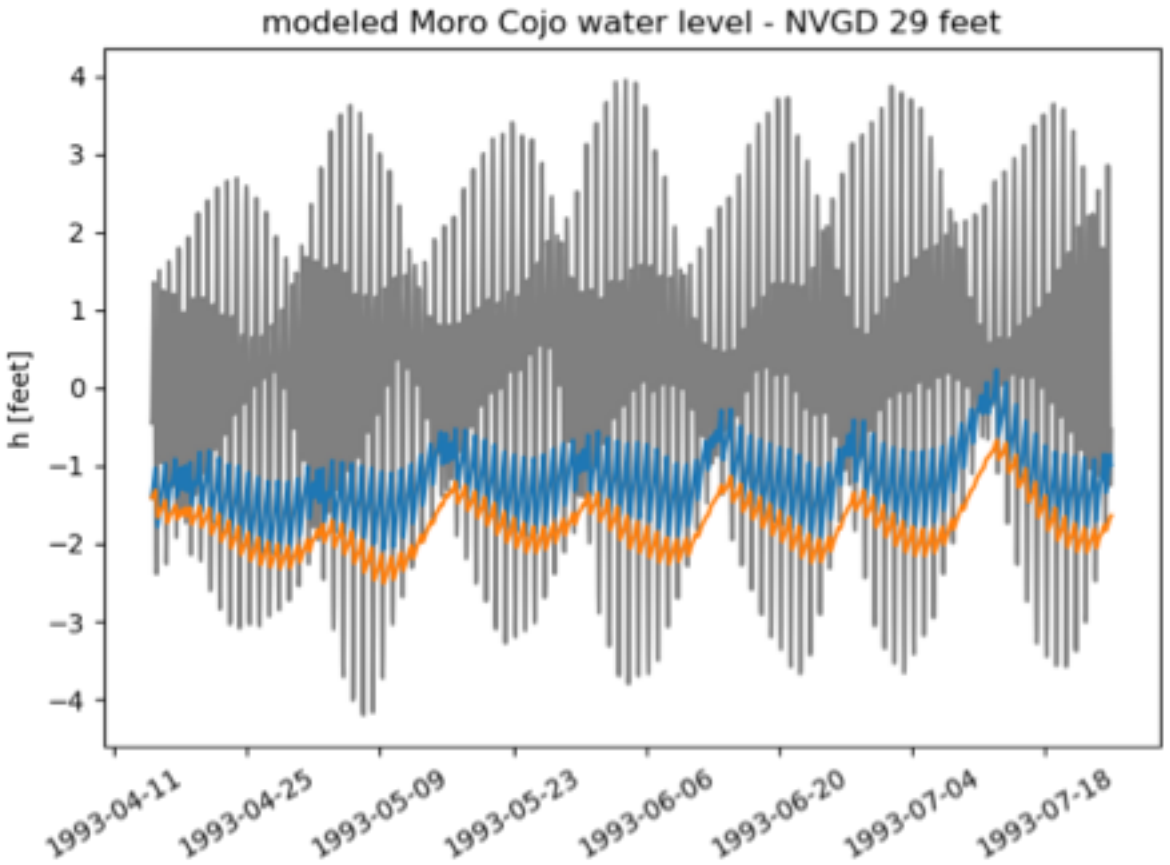
Comparing model scenarios for summer 2015 (before repairs)



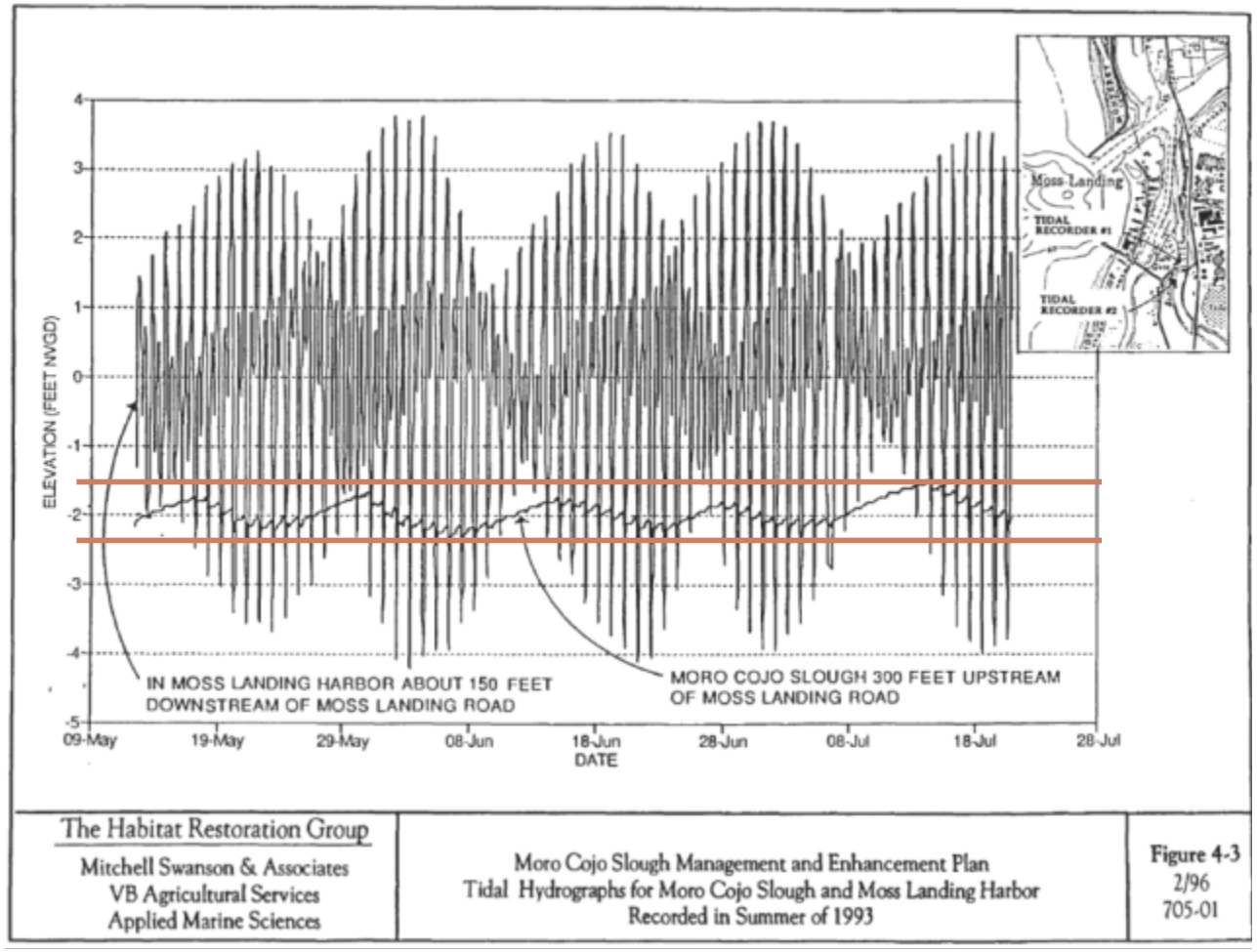
Comparing model scenarios for summer 2015 (before repairs)

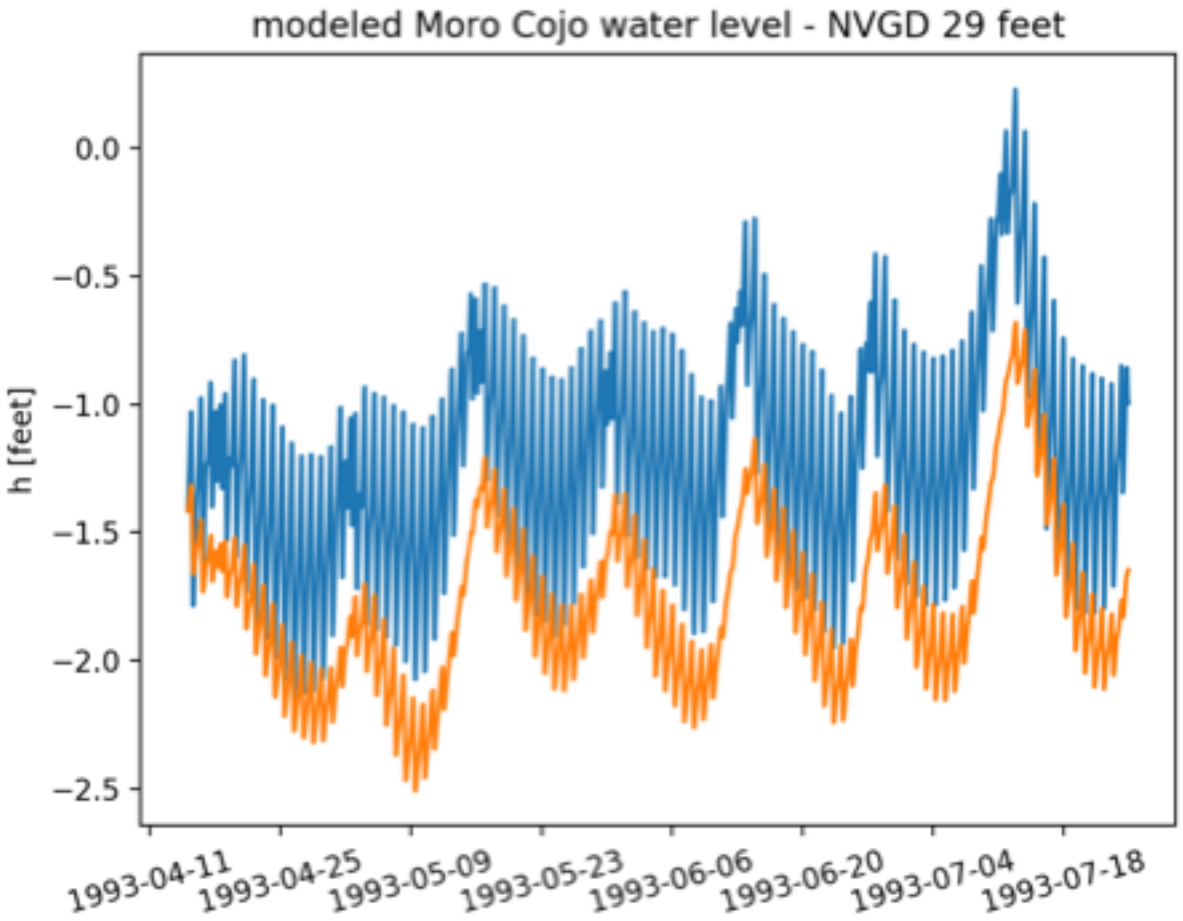
Comparison of model scenarios with historical data



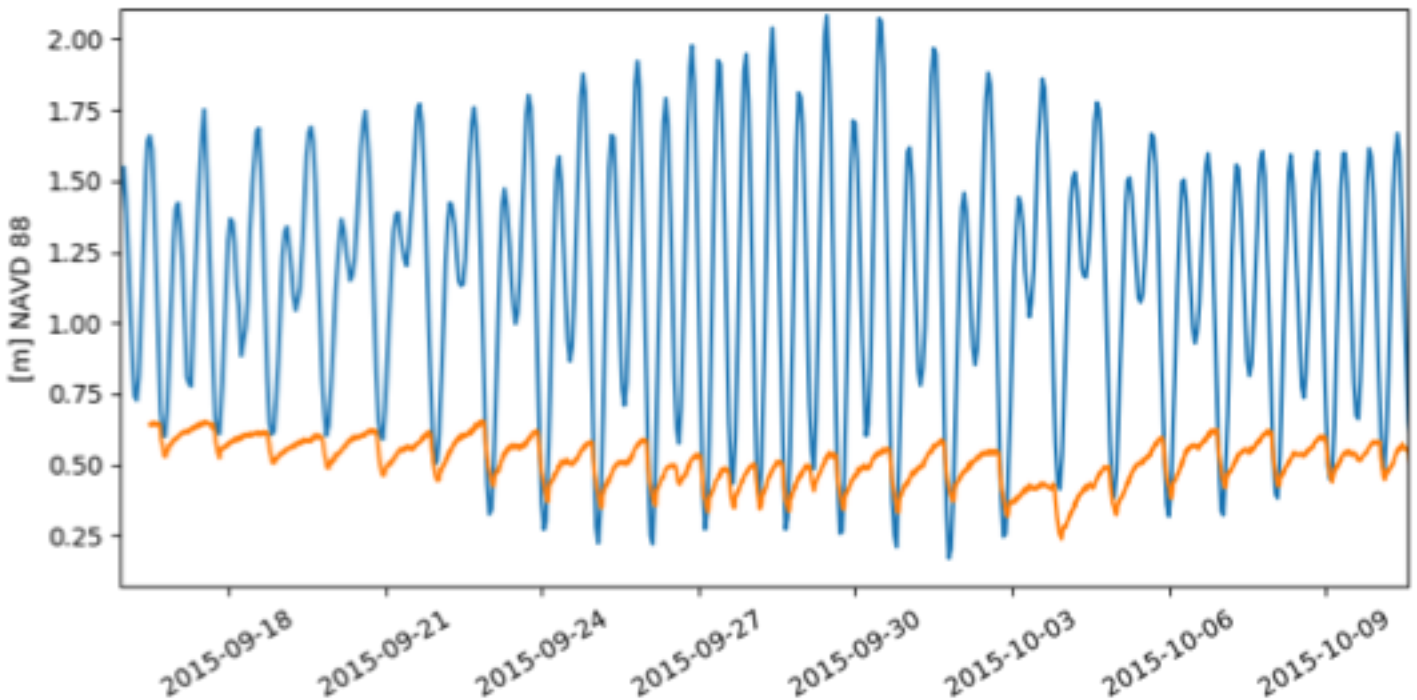


Comparison of model scenarios with historical data





Monterey and Moro Cojo water levels



Possible sources of model error

- Over-simplified statistical model for model equations
- Tidal forcing from Monterey not Moss Landing Harbor
- No correction for atmospheric pressure in pressure measurements
- Leveling errors - should be not outflow unless ocean water level is lower than Moro Cojo water level
- Based on dry period – relationships may be altered by fresh water input