

# The Non-Market Value of the Outer Coast of Washington State

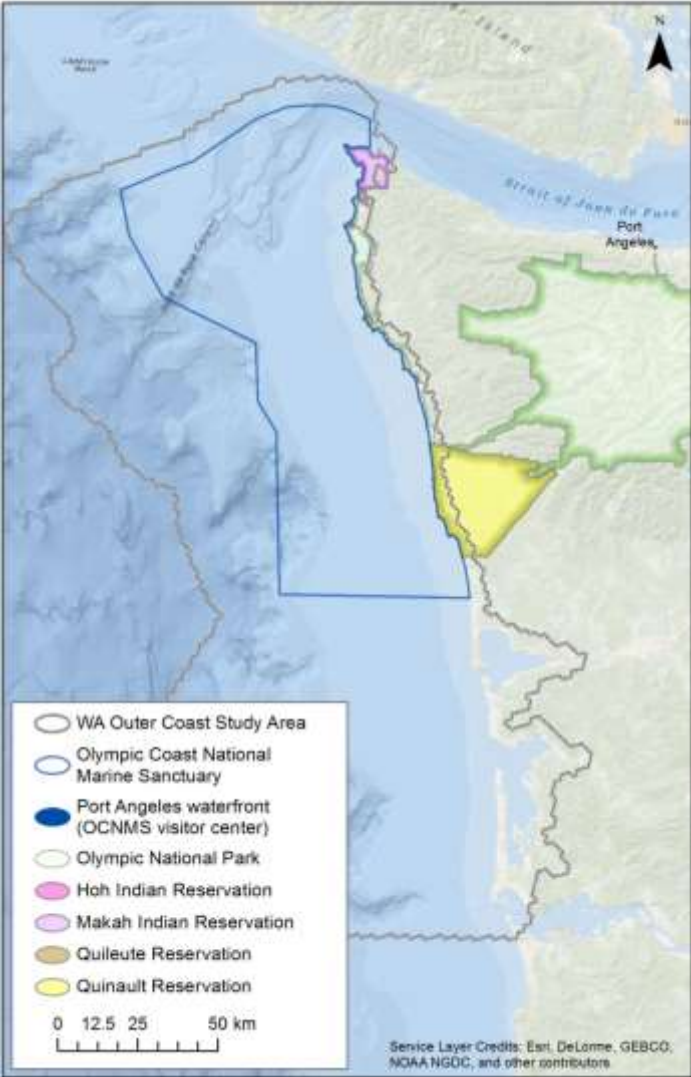


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# Outer Coast of Washington State



# Outline

- Survey Instrument
- Model
- Results
- Conclusion





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# SURVEY INSTRUMENT

# Survey Components

- Visitor use, expenditures, and activity mapping
- Animal Preferences
- New Ecological Paradigm
- Crowding Preferences
- Importance/Satisfaction
- Contingent Choice Experiment
- Follow-Up Statements



*Photo courtesy of Mary Sue Brancato*



# New Ecological Paradigm

- Dunlap et al., 2000
- Level of agreement/disagreement with 15 statements
- Ecological worldview groups
  - Strong ecological worldview
  - Moderate ecological worldview
  - Dominant social worldview



# Crowding Preferences



# Crowding Preferences

- Number of visitors they would expect to see
- Number of visitors they would prefer to see
- Maximum acceptable number of visitors
- Number of visitors that would cause them not to return





# Contingent Choice Experiment

Attributes	Status Quo	Scenario A	Scenario B
Description	Low	Low, Med, or High	Low, Med, or High
Annual Household Cost	\$0	\$20-\$350	\$20-\$350
Your Preferred Choice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 10 natural resource attributes
- Low, Medium, and High condition levels
- Four choices per respondent



# Follow-Up Statements

- There was **not enough information** for me to make informed decisions about doing more to protect and restore natural resources or expand and improve facilities and services.
- I was concerned the federal, state and local **governments cannot effectively manage** the natural resources and facilities or provide the services.
- I **should not have to pay more** for maintaining or improving conditions.
- I **do not believe the scenarios** accurately represent the current or potential states of the environment.

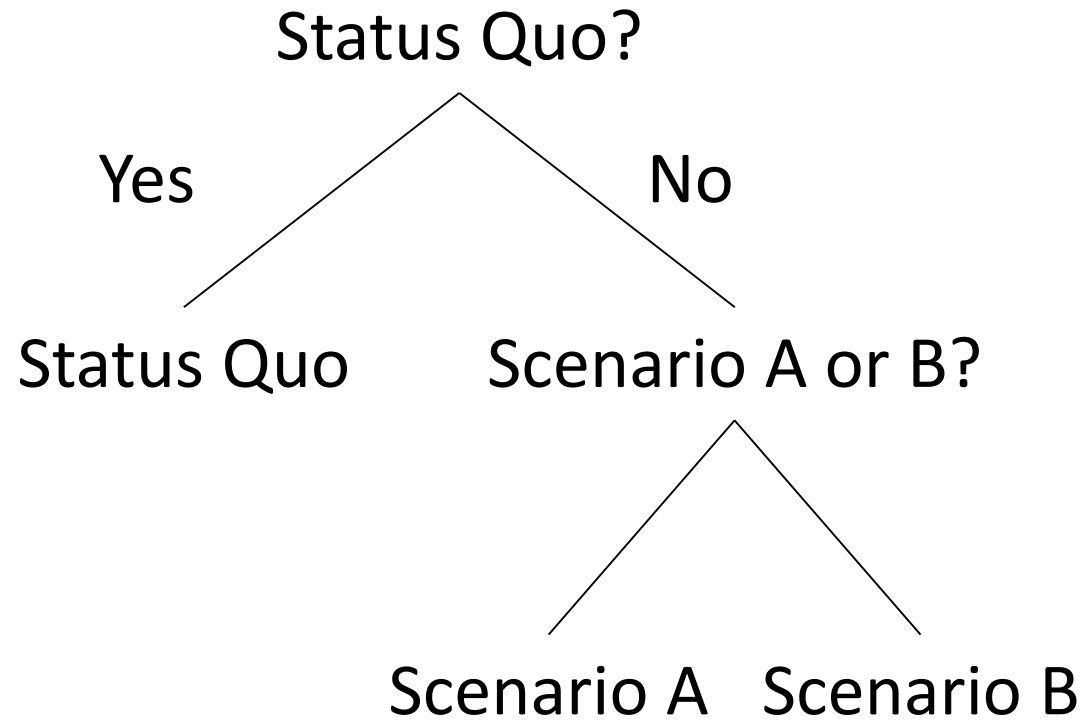




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MODEL

# Decision Tree



# Model Specification

$$V_{ij} = \alpha_j + x'_{ij}\beta_j + z'_i\gamma_j$$

- $x_{ij}$ : natural resource attribute condition levels
  - Medium and High condition level dummy variables
- $z_i$ : per capita income, ecological worldview, crowding preferences, experience





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# RESULTS

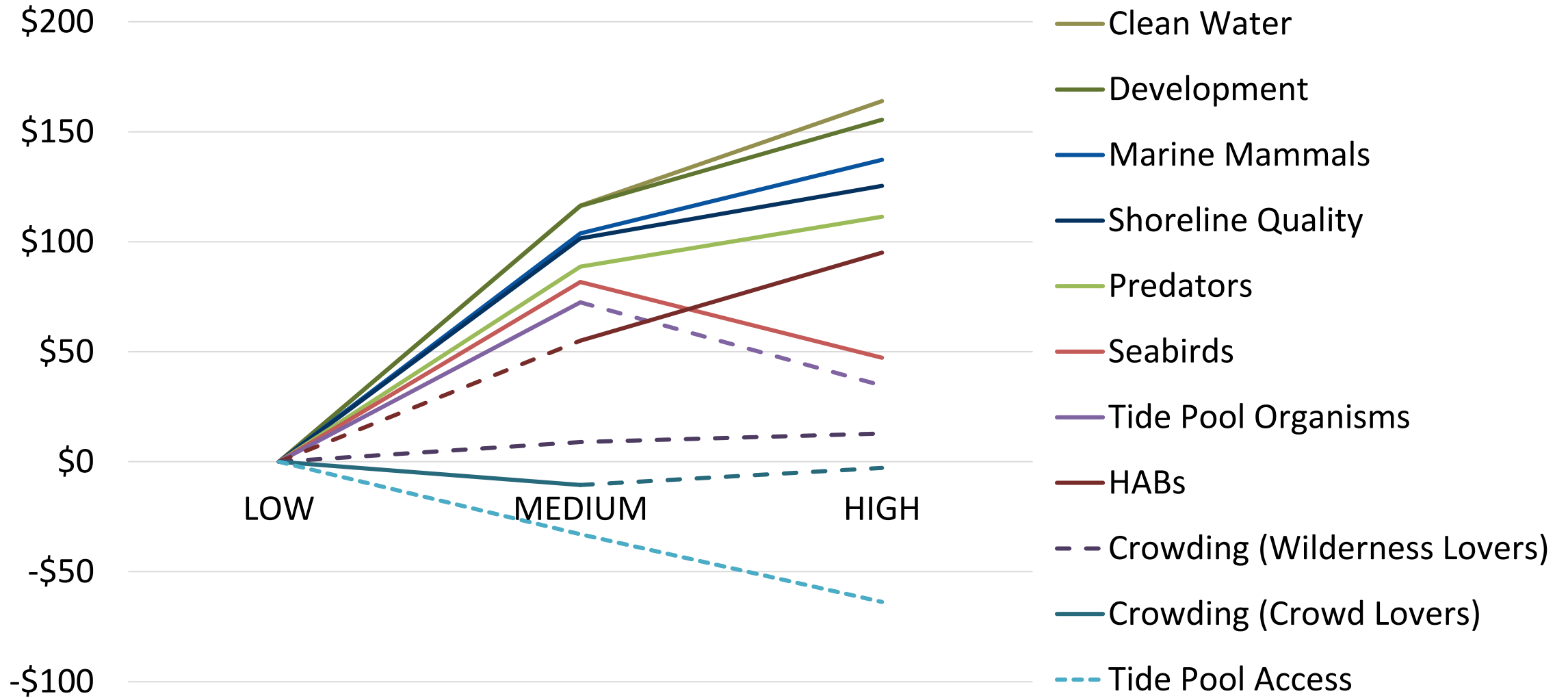
# Regression Results

Variable	Coefficient		Variable	Coefficient
	Medium	High		
Marine Mammals	0.14*	0.19**	<b>Table continued</b>	
Seabirds	0.11**	0.07*	ASC	-0.07
Predators	0.12**	0.15**	Price (\$1000)	-1.38**
Tide Pool Organisms	0.10**	0.05	Per Capita Income x ASC (\$1000)	0.01**
Tide Pool Access	-0.05	-0.09	NEP Strong x ASC	1.68***
Clean Water	0.16**	0.23**	NEP Mod x ASC	1.15***
Shoreline Quality	0.14**	0.17**	First Time x ASC	-0.49*
HABs	0.08	0.13*	τ Status Quo	1.00
Development	0.16**	0.21**	τ Other	0.38
Crowding (Wilderness Lovers)	0.04	0.06	Observations	9,438
Crowding (Crowd Lovers)	-0.85***	-0.23		

\*\*\*99%, \*\*95%, \*90%

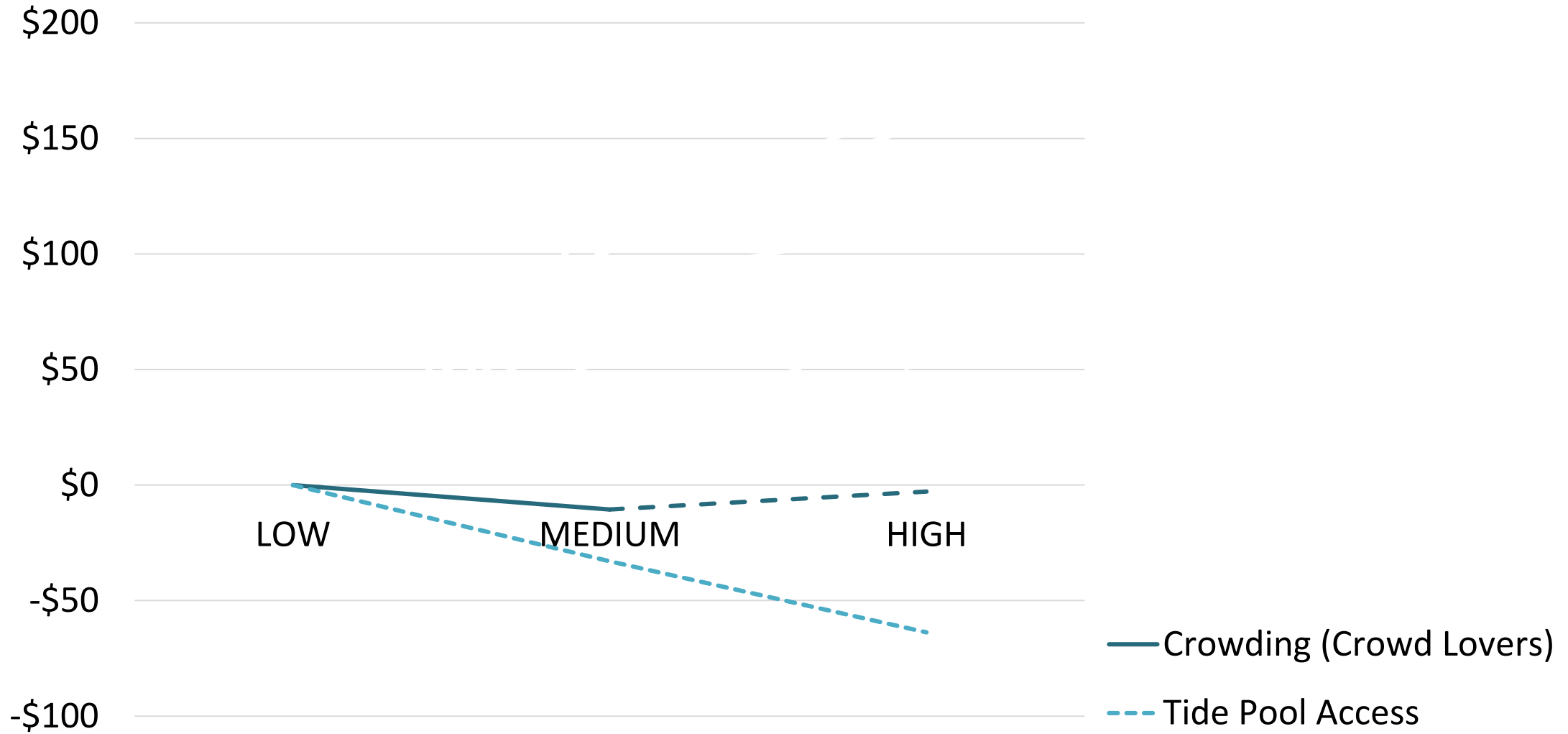


# Marginal Utility Values

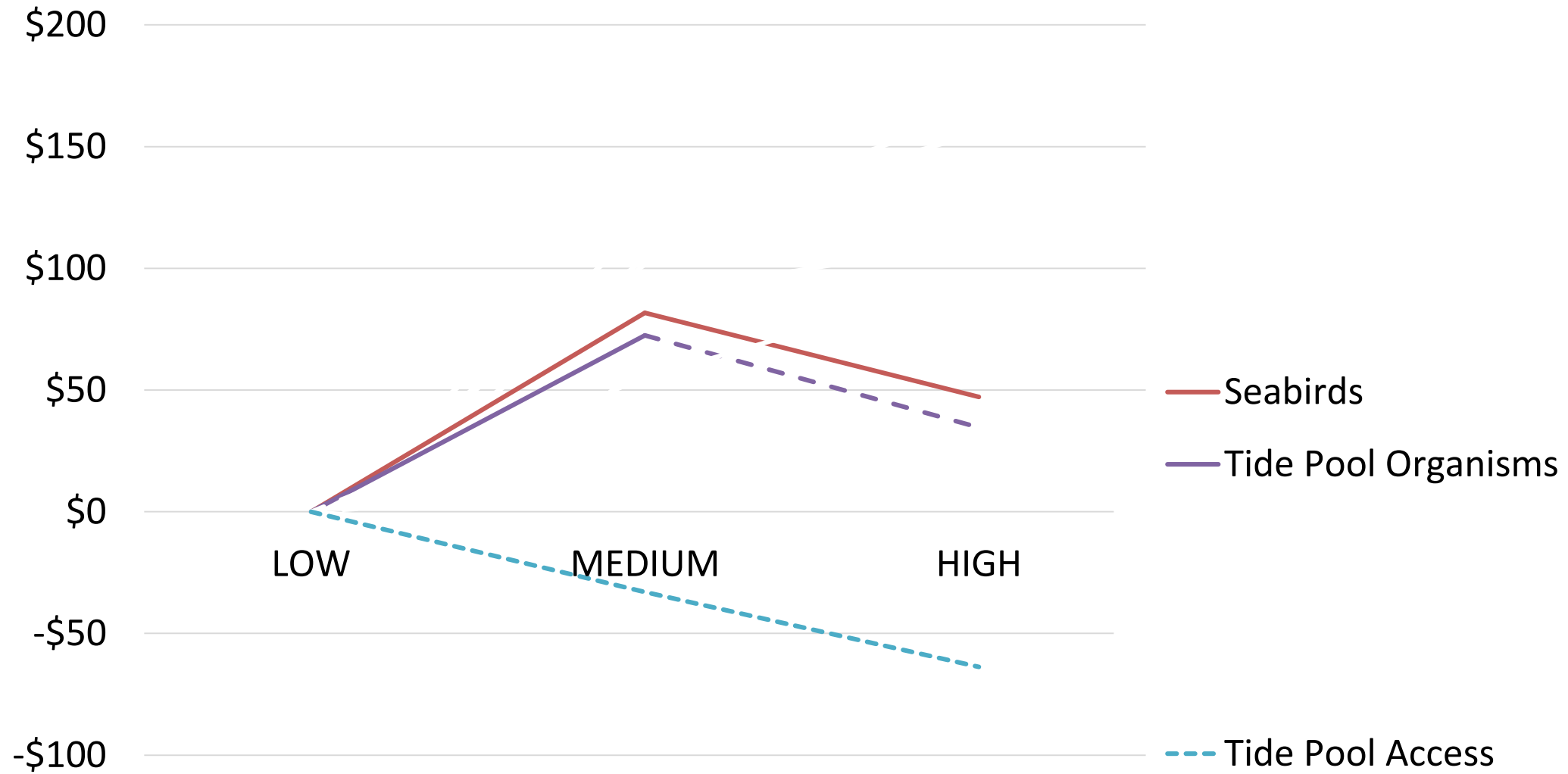




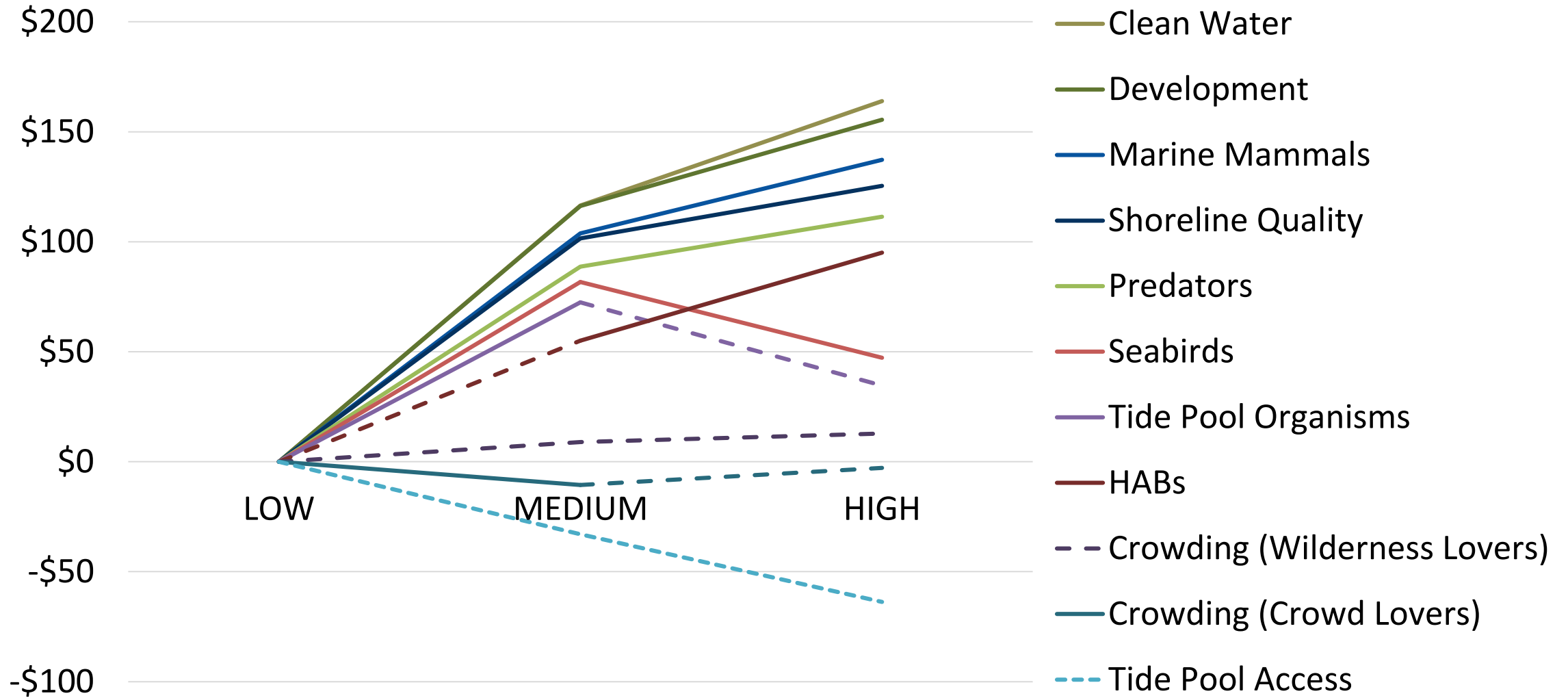
# Marginal Utility Values



# Marginal Utility Values



# Marginal Utility Values



# Total Value

Scenario	Average Annual Household	Annual Total All Households
All: Low to Medium	\$990	\$1.06B
All: Low to High	\$1,034	\$1.10B



# Conclusion

- Water Quality and Development most valued resource attributes
- Ecological worldview and experience main predictors of value
- Decreasing marginal utility
- Average results across models
- Applications
- Future Research



# Questions

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Project Page: <https://coastalscience.noaa.gov/projects/detail?key=219>

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