



Avoiding false conflict, false consensus, and mental biases

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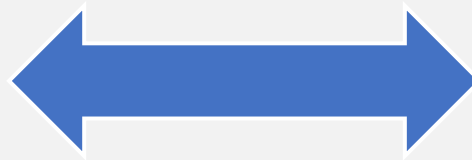
Floridan Aquifer

- Primary drinking water source
- Supports major agricultural industry
- Supports unique ecosystems





Producers



Environmentalists

What do they not agree on?

Responses from sampled producers:

- Do not believe they are recognized as good stewards of the land
- Economics is often not taken into account
- Environmentalists' positions are extreme

Responses from sampled environmentalists:

- Producers prioritize their operations above the environment
- Appropriateness of certain types of agriculture in the region

Co-orientation Model

Producers'
attitudes, beliefs,
opinions about
water

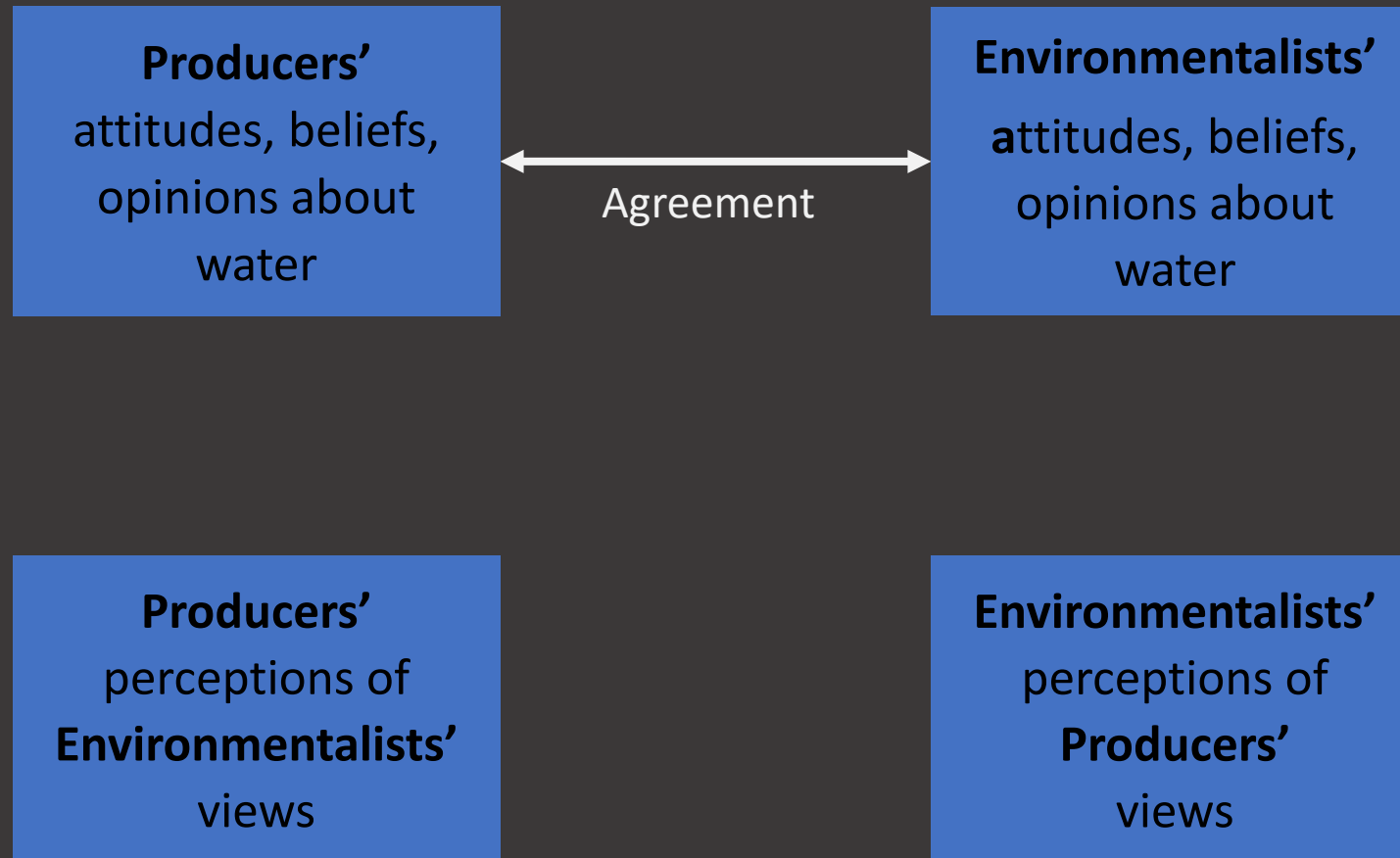
Environmentalists'
attitudes, beliefs,
opinions about
water



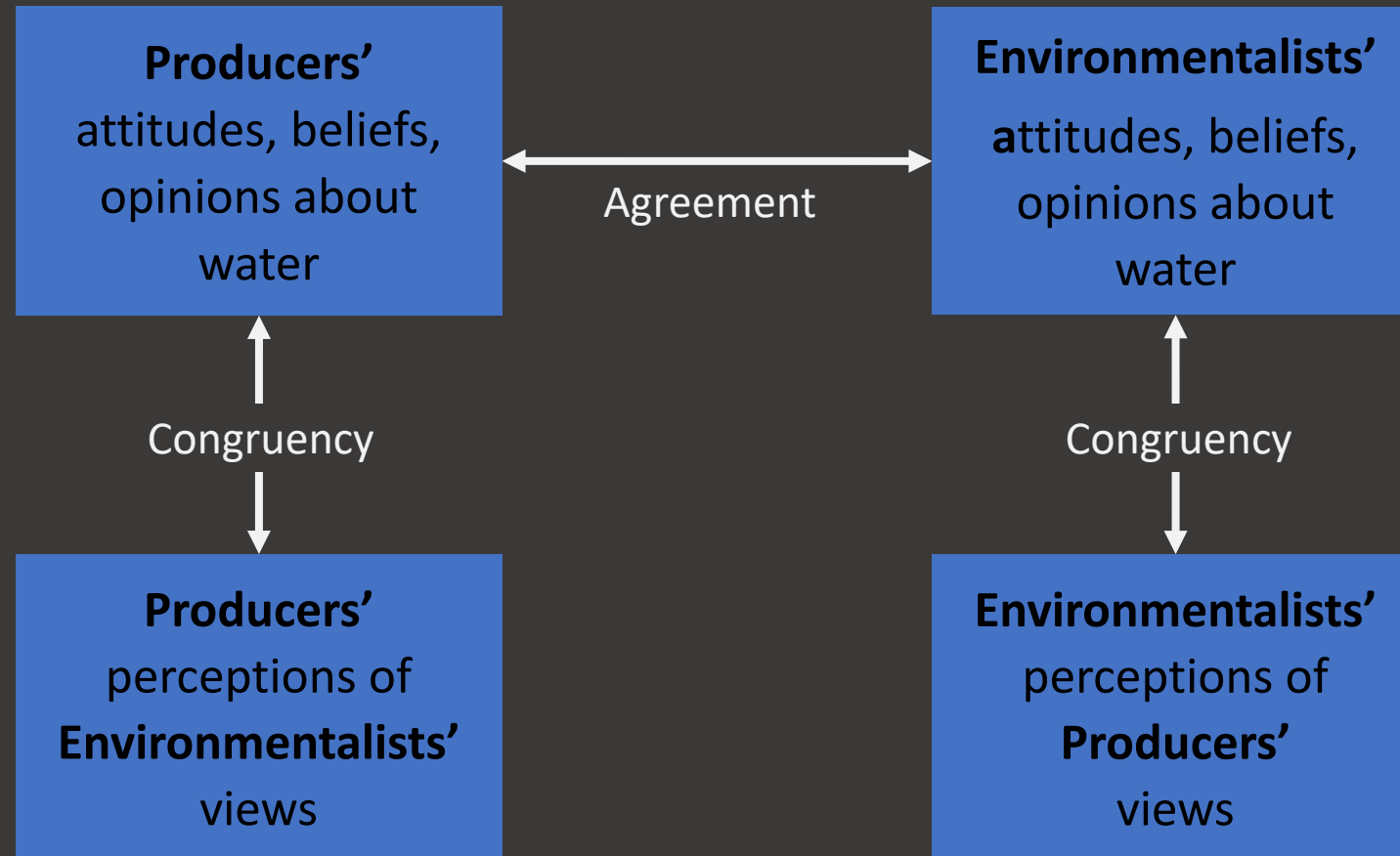
Co-orientation Model



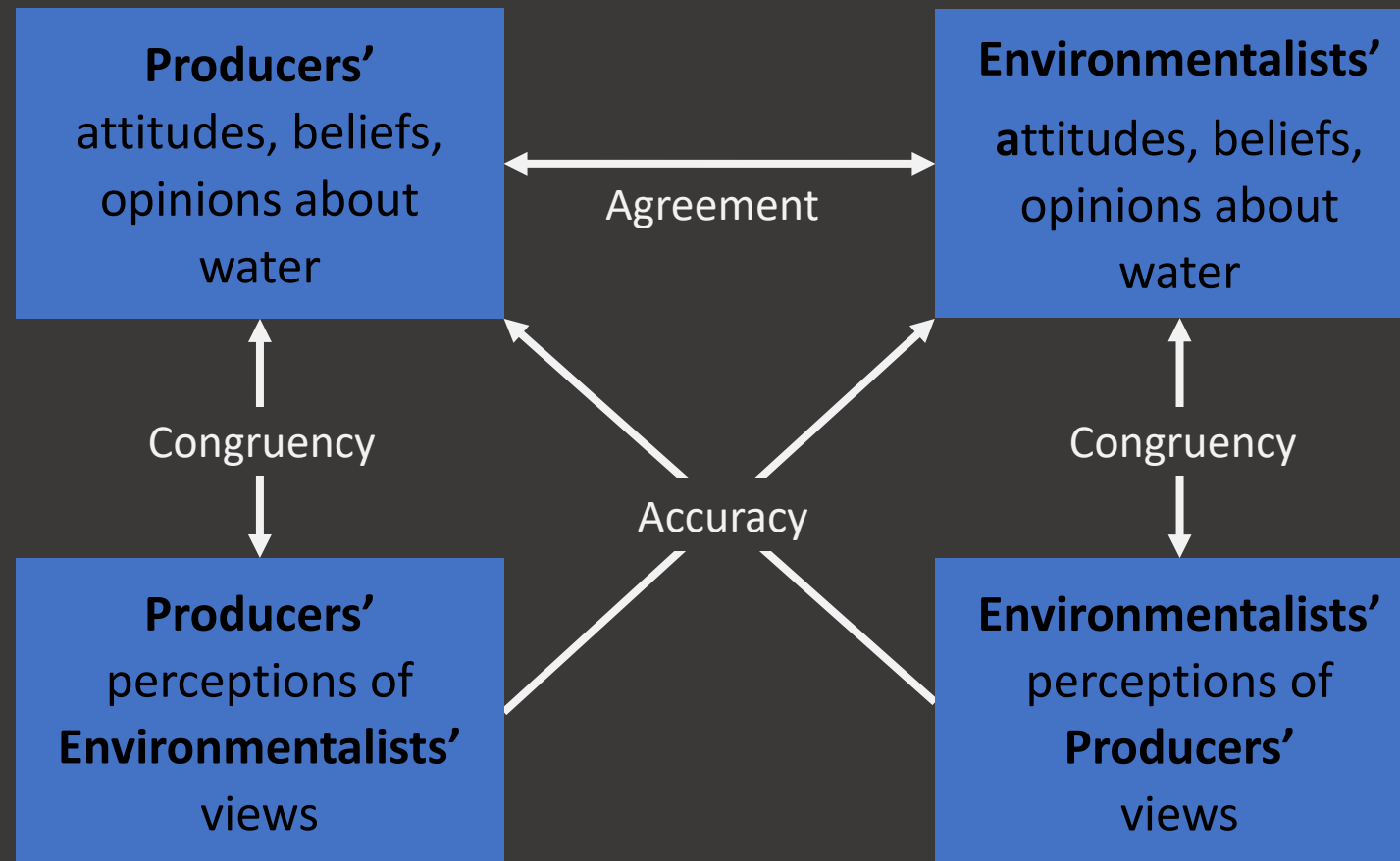
Co-orientation Model



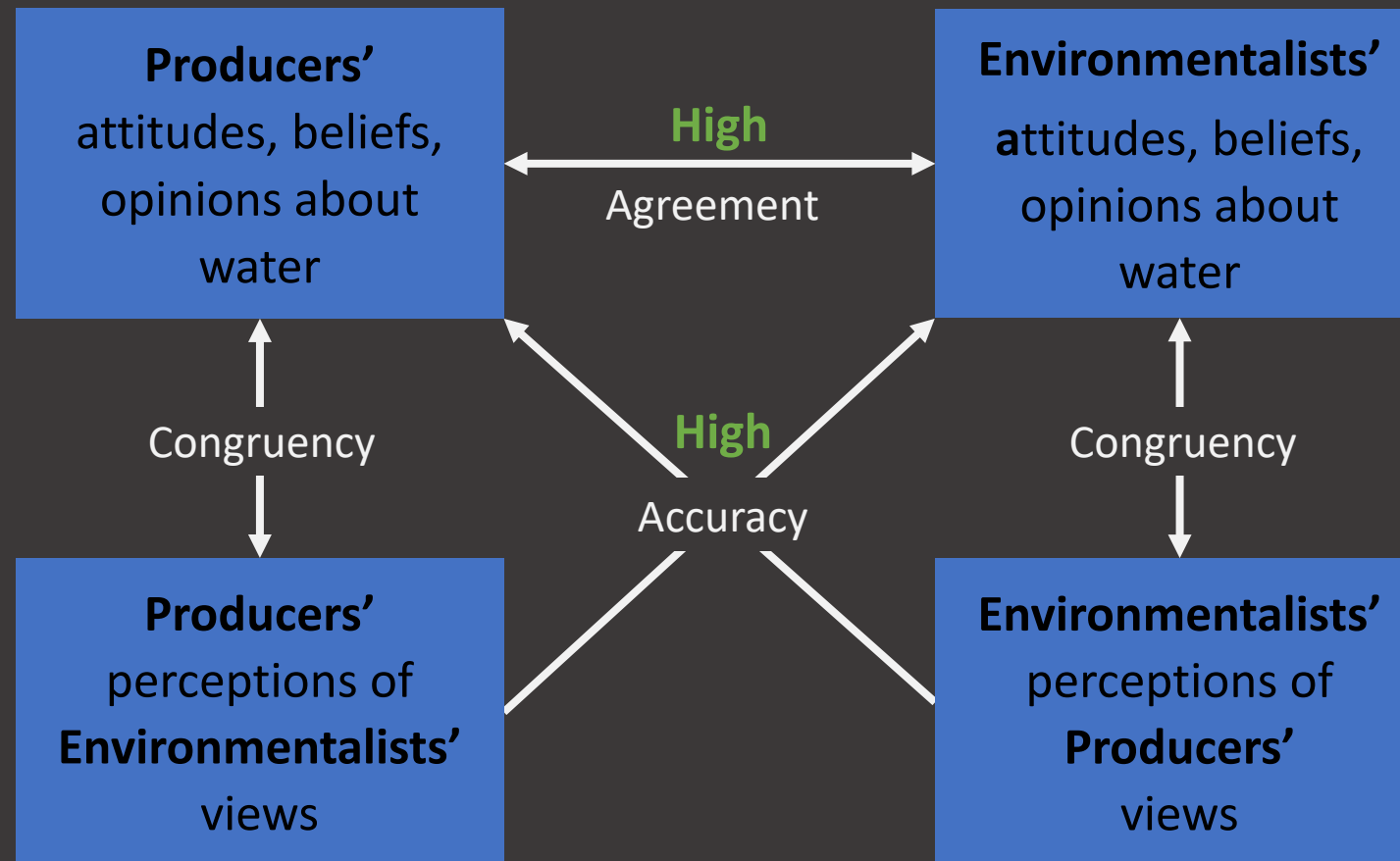
Co-orientation Model



Co-orientation Model

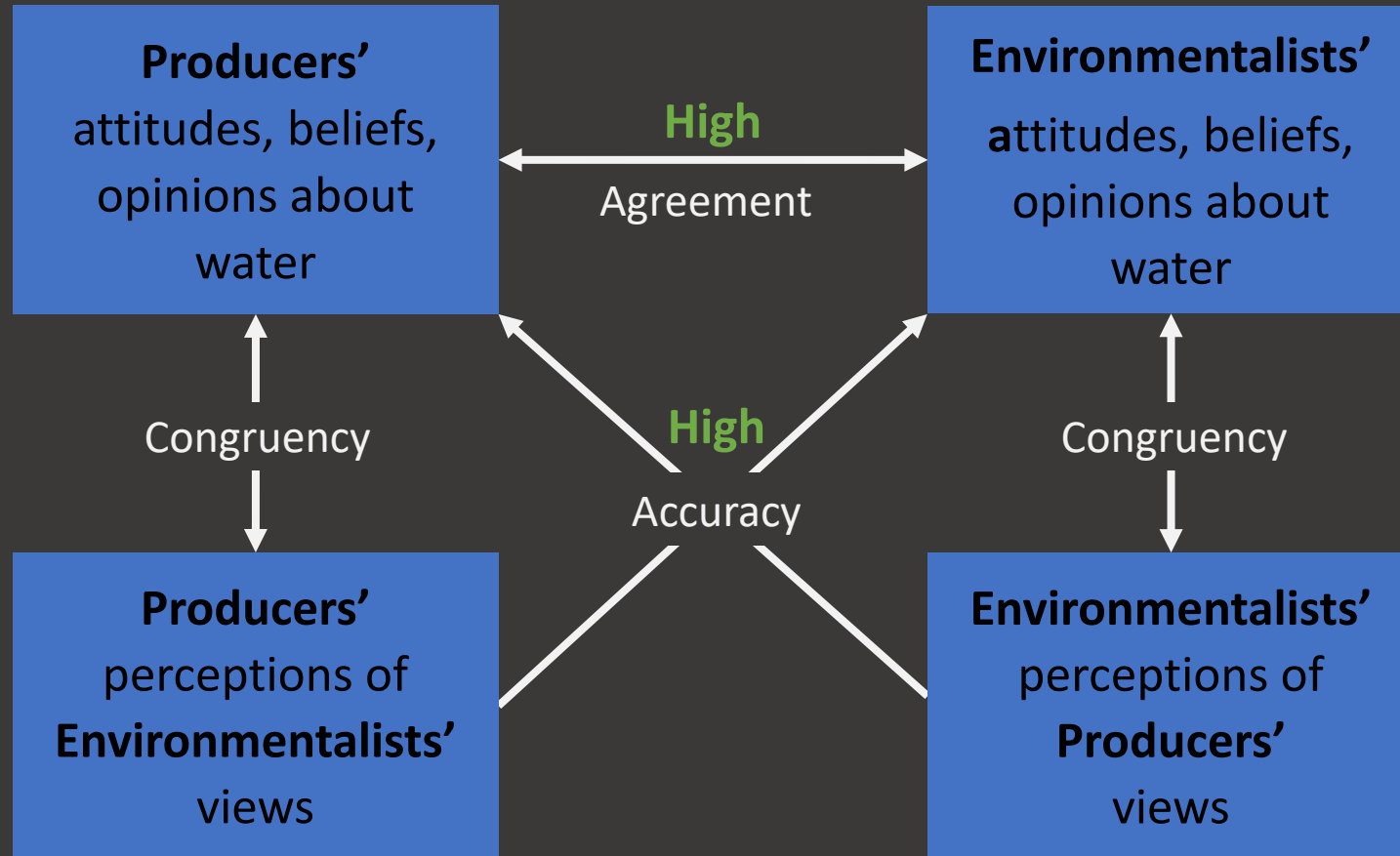


Co-orientation Model

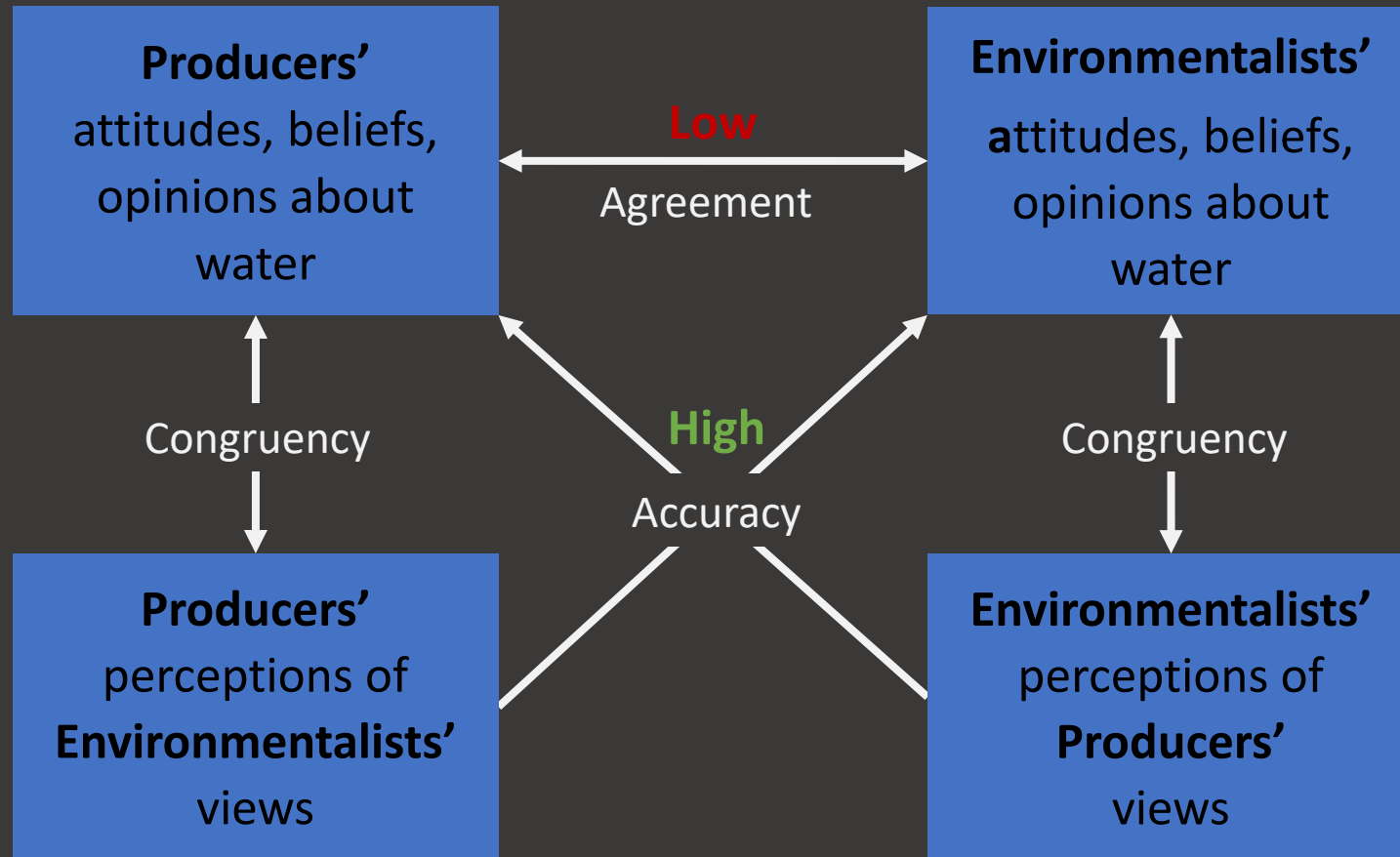


Co-orientation Model

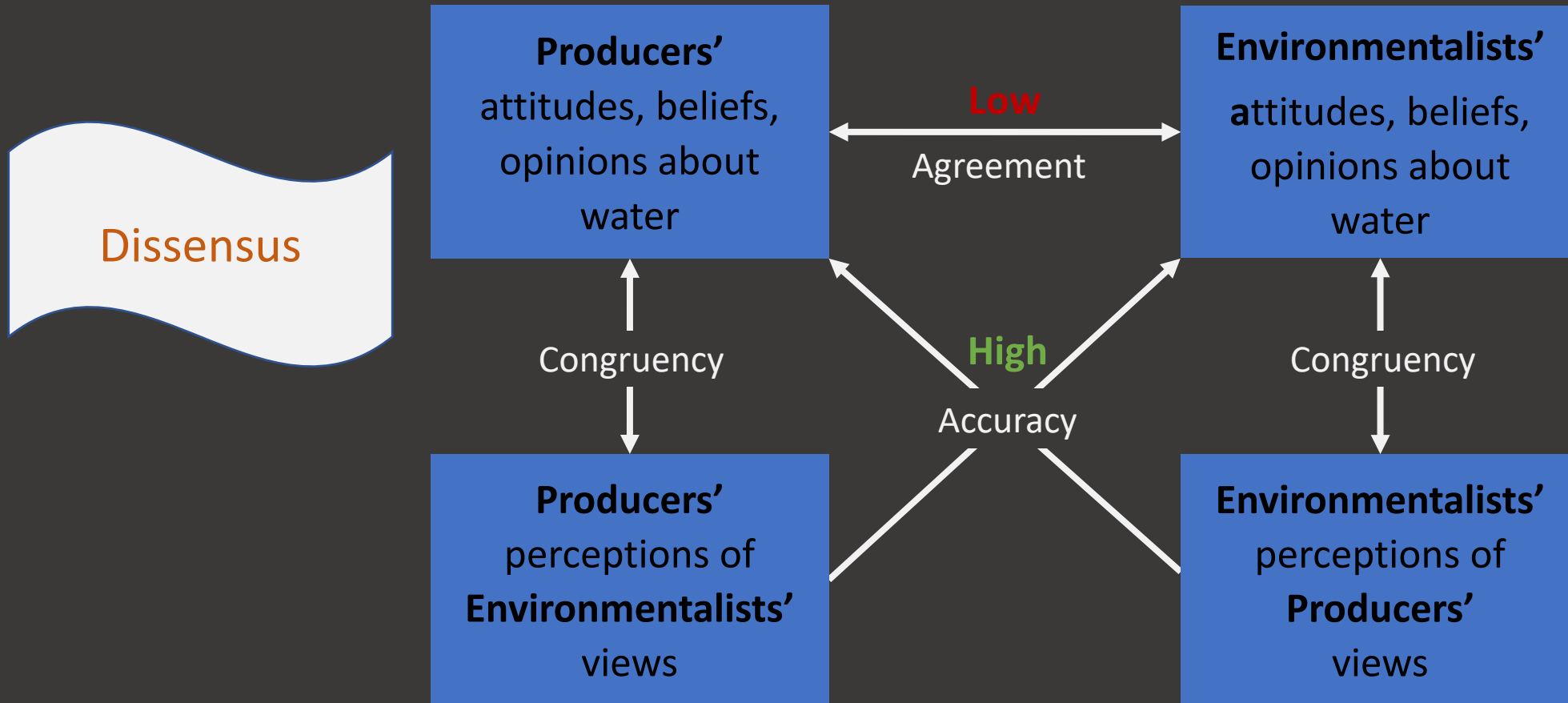
True Consensus



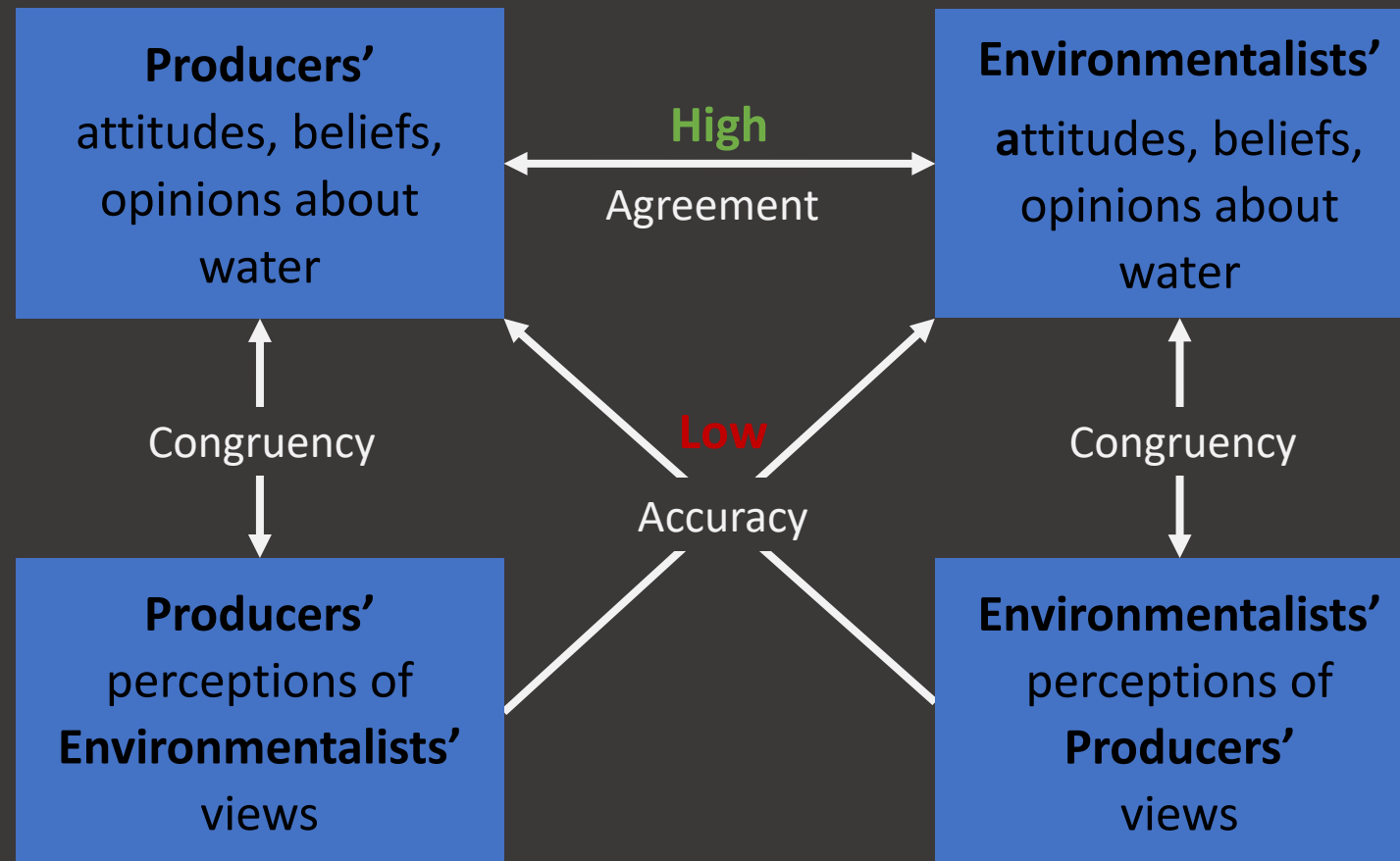
Co-orientation Model



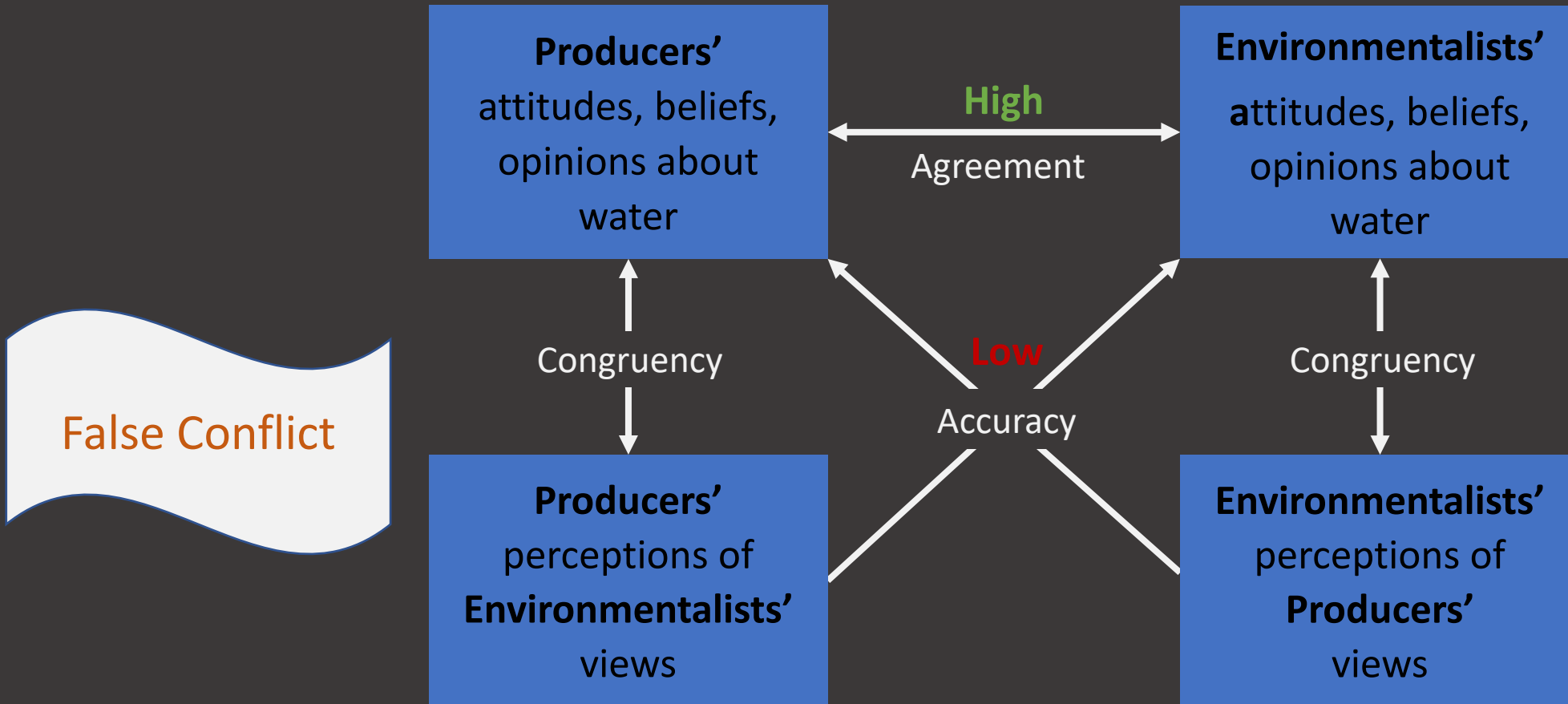
Co-orientation Model



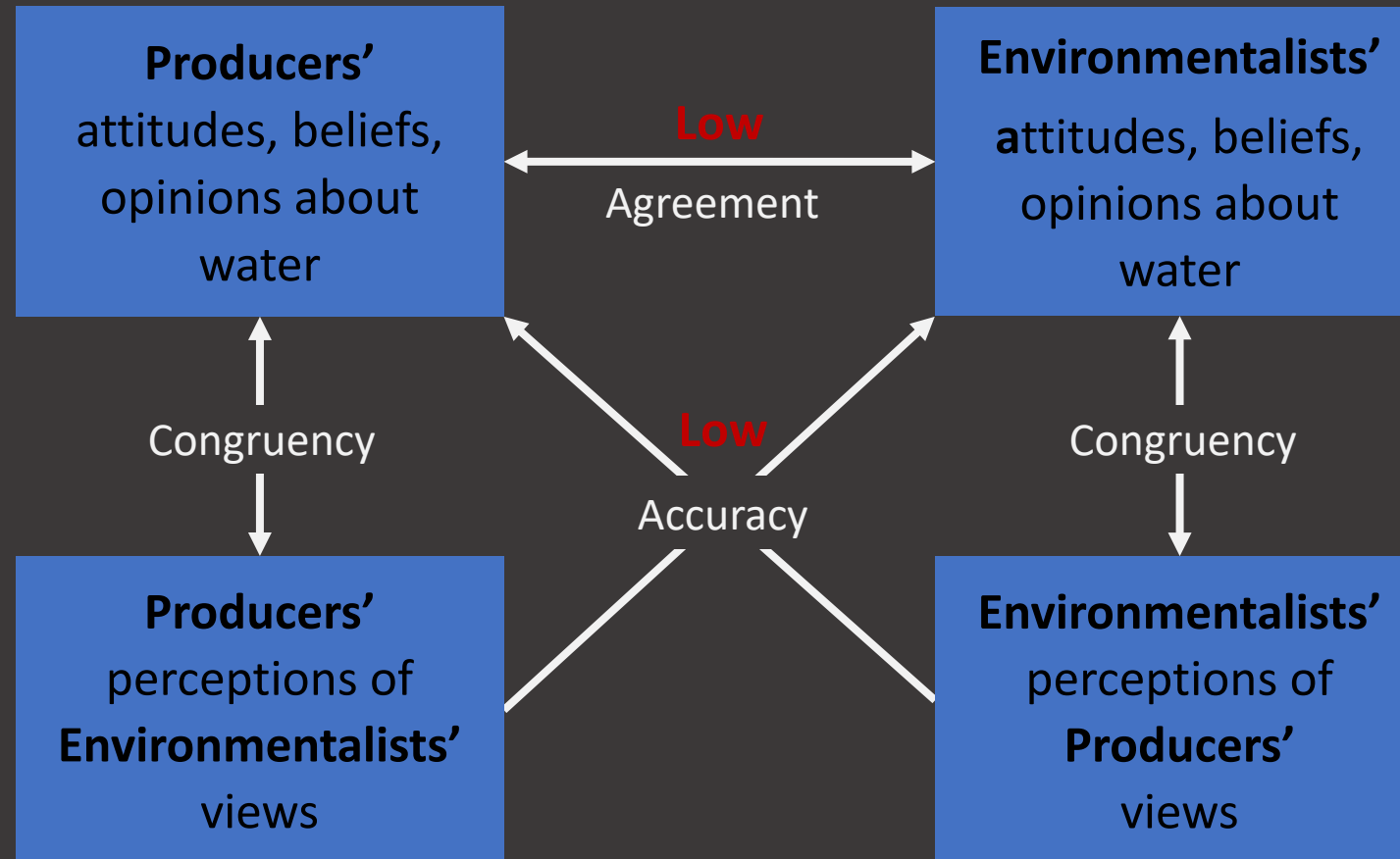
Co-orientation Model



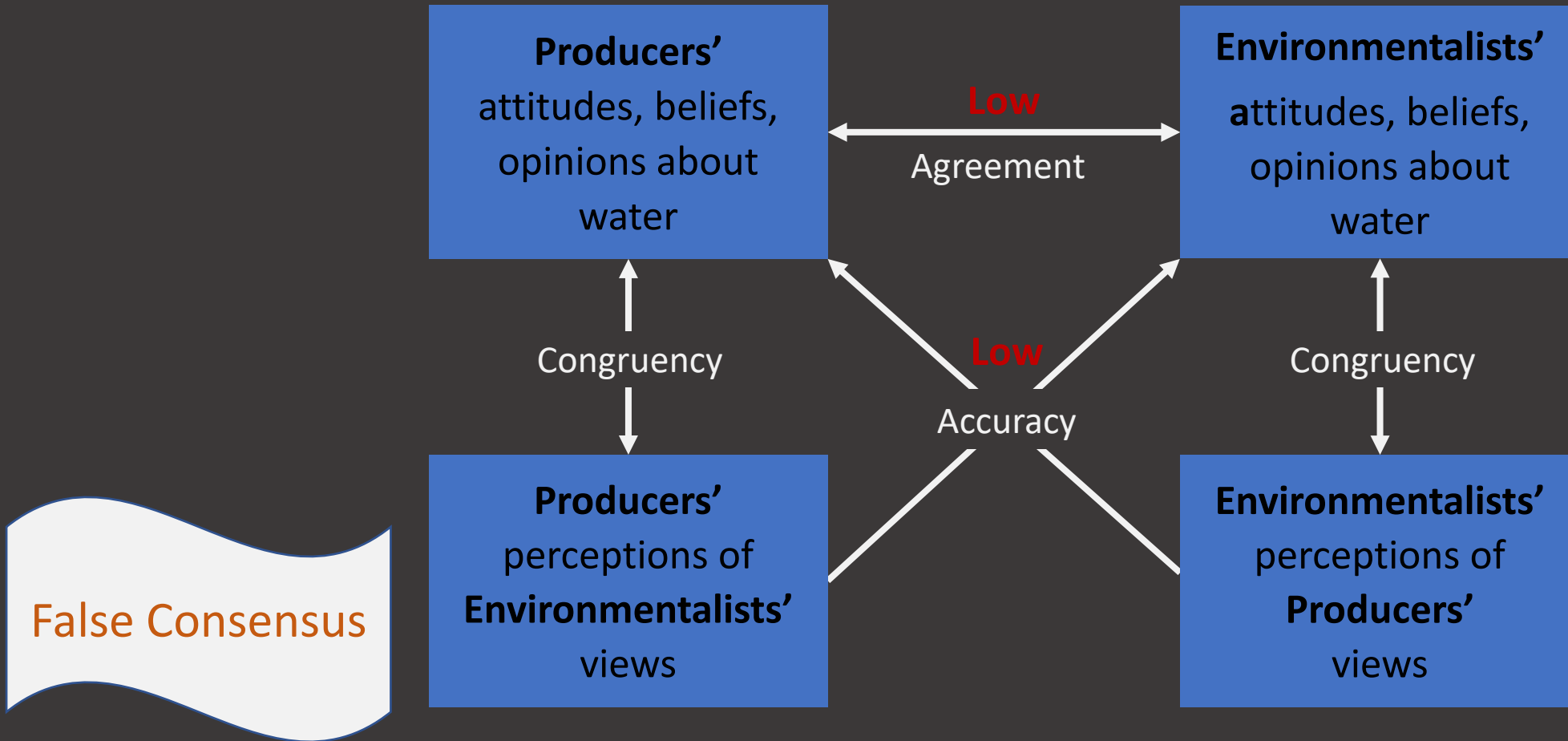
Co-orientation Model



Co-orientation Model



Co-orientation Model



How concerned are you about water [pollution or availability] in the region?

	Producers (<i>n</i> = 14)		Environmentalists (<i>n</i> = 25)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Water pollution						
Surface water	4.36	0.745	4.60	0.764	-0.961	0.343
Ground water	4.07	1.141	4.52	0.770	-1.464	0.152
Water availability						
Surface water	4.29	0.852	4.60	0.645	-1.319	0.195
Ground water	4.36	0.745	4.68	0.627	-1.442	0.158

[not at all (1) to very much (5)]

High levels
of concern

What are your priorities for water in the region?

	Producers (<i>n</i> = 14)		Environmentalists (<i>n</i> = 25)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Water priorities				
Water for crop irrigation	4.79	0.426	4.08	1.038
Water for springs, rivers, and wetlands	4.29	0.825	4.92	0.277
Water for urban areas	3.29	1.541	3.60	1.258

[not a priority (1) to high priority (5)]

High priority for crops and ecosystems, not urban

How much of a problem do you think each of the following are in the region?

	Producers			Environmentalists		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Water pollution						
Fertilizer on lawns and landscapes	14	3.14	1.748	24	3.63	1.748
Septic tanks	14	3.29	1.637	24	3.88	1.116
Stormwater runoff from urban areas	13	3.08	1.441	24	3.83	1.007
Stormwater runoff from agricultural areas	14	2.50	0.855	23	3.83	1.029
Livestock and poultry manure	14	2.64	0.745	24	4.38	0.770
Fertilizer on crops	14	2.86	1.406	24	4.13	1.076
Fertilizer on planted pine	13	1.85	1.068	24	2.21	0.977
Water availability						
City use of water	14	3.14	1.351	25	3.20	1.500
Preservation of water flows and levels for aquatic habitats	14	3.57	1.089	25	3.72	1.487
Irrigation for agricultural fields	14	3.71	1.204	25	4.36	0.757
Irrigation for lawns and landscapes	14	2.50	1.454	25	3.32	1.520

Agreement on municipal and ecosystem

Significant differences on agriculture

[not a problem (1) to a big problem (5)]

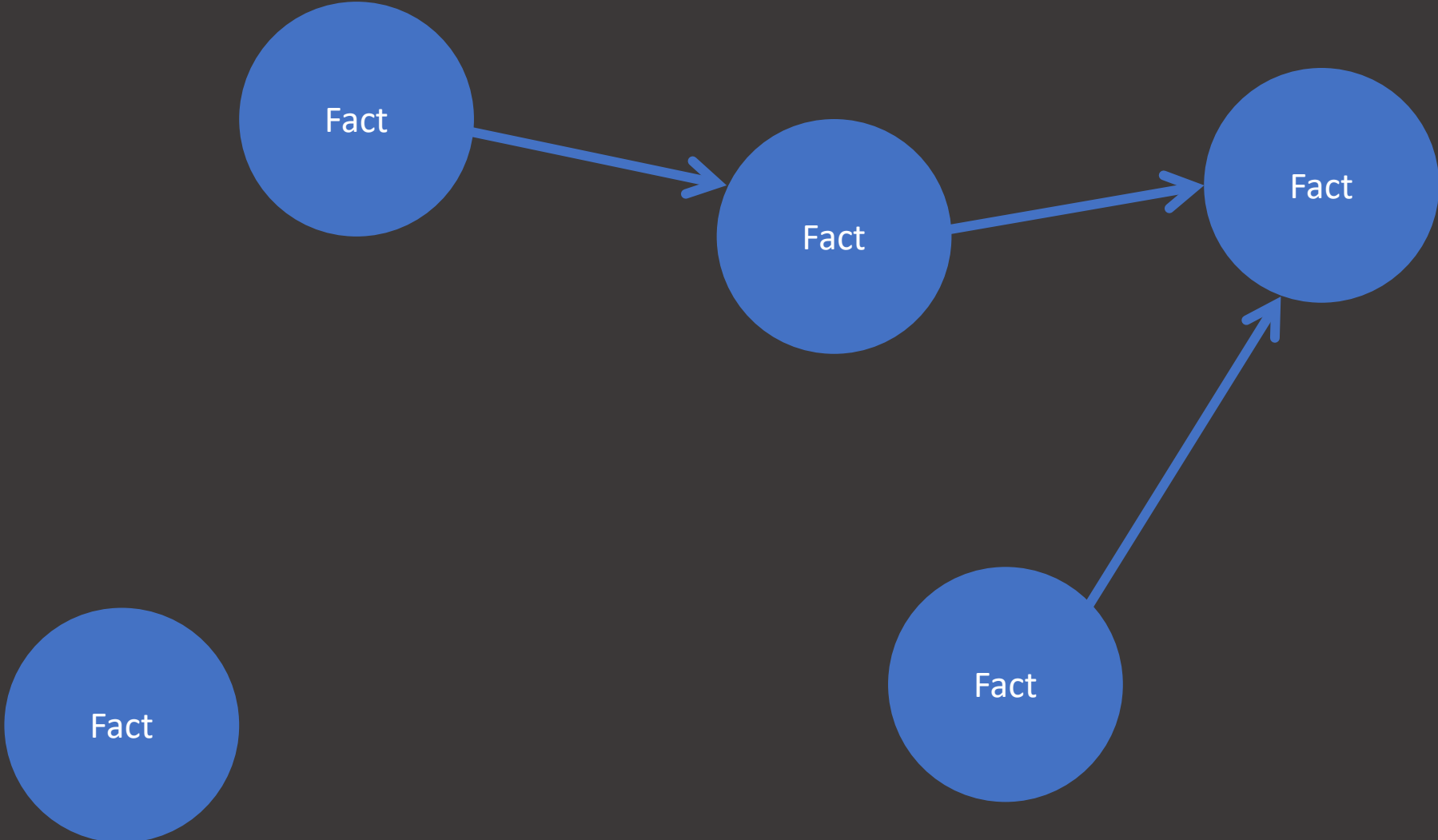
Mental model: Structure of a person's thoughts about how something works

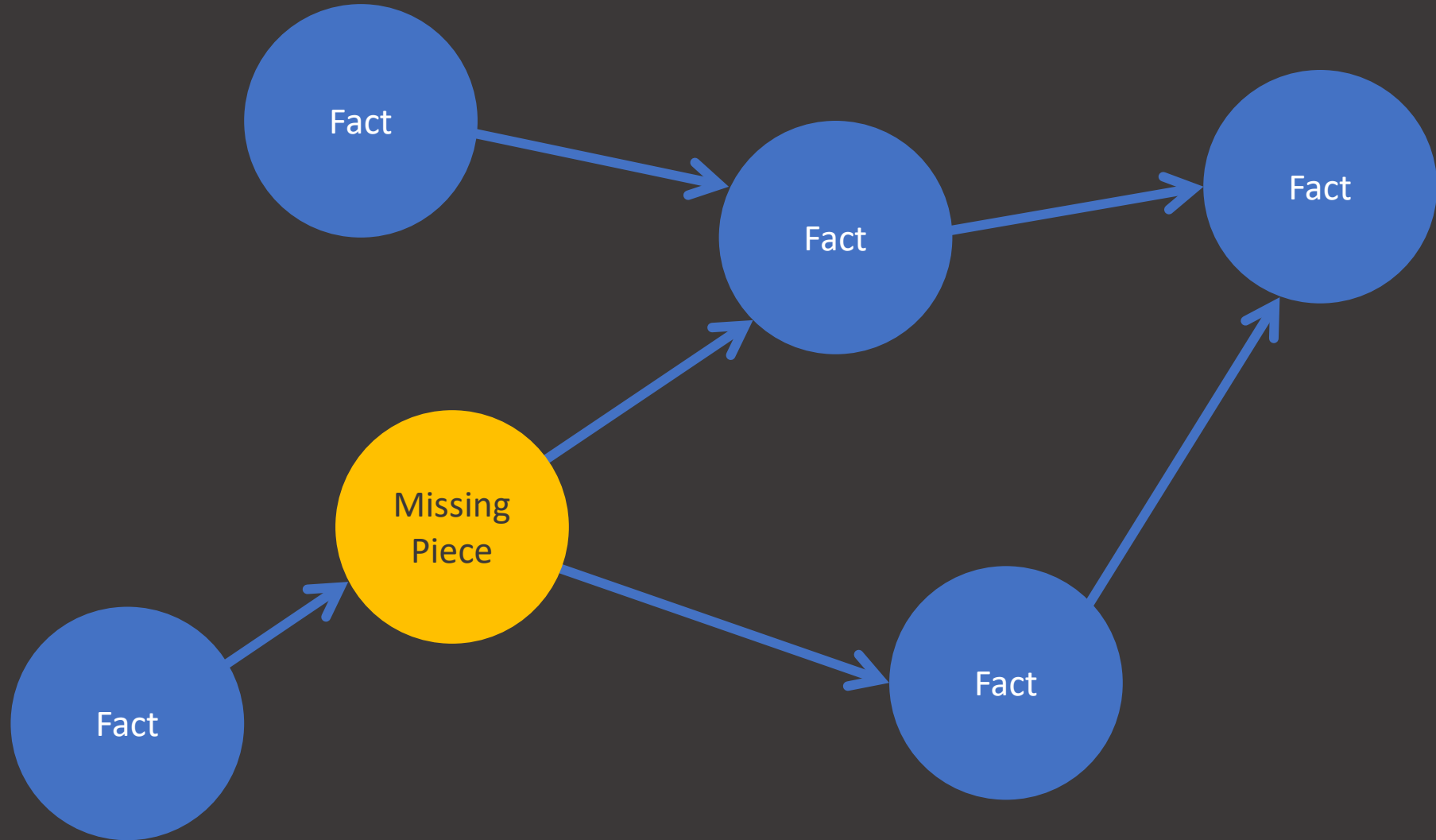
“small scale model of reality”

Mental models are **incomplete representations** of reality

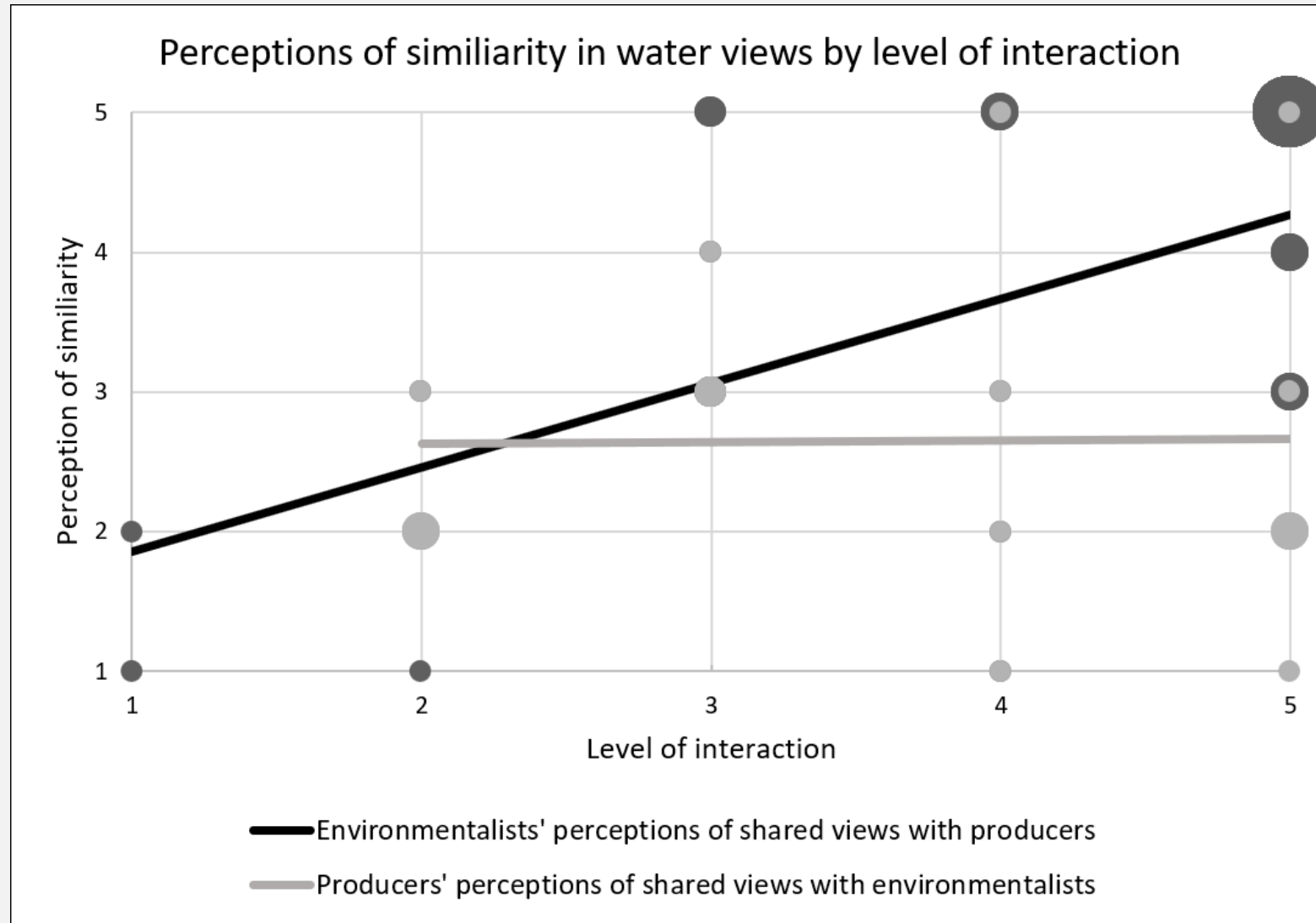
Gaps in mental models are often filled by **assumptions**

Leads to **misunderstanding** and **miscommunication**





Interaction may not help



Skills for bridging mental models



Reflection



Inquiry



Advocacy

Skills for bridging mental models



Reflection

- Make stakeholders (and yourself) aware of their own thinking and reasoning processes.
- Help them distinguish between actual data and abstractions



Inquiry



Advocacy

Skills for bridging mental models



Reflection

- Make stakeholders (and yourself) aware of their own thinking and reasoning processes
- Help them distinguish between actual data and abstractions



Inquiry

- Joint learning process to understand the thinking of other stakeholders
- Helping each other investigate their assumptions about one another



Advocacy

Skills for bridging mental models



Reflection

- Make stakeholders (and yourself) aware of their own thinking and reasoning processes.
- Help them distinguish between actual data and abstractions



Inquiry

- Joint learning process to understand the thinking of other stakeholders
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Advocacy

- Communicating one's own thinking (mental model)

Questions

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