

Incentives for the joint provision of biodiversity and food from the sea

Christopher Costello
UC Santa Barbara
Environmental Market Solutions Lab



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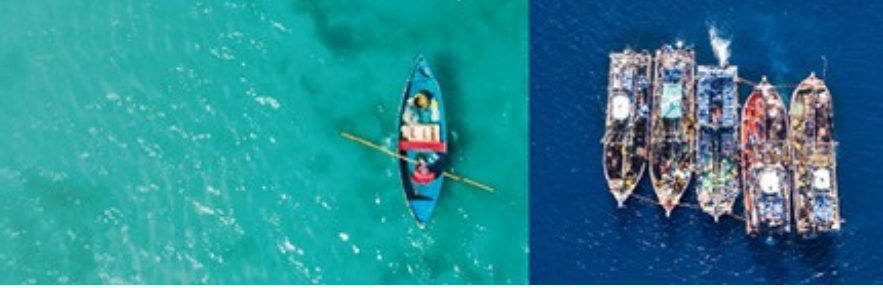


Session 2
Panel 2.2

International Symposium on Fisheries Sustainability:
Strengthening the Policy-Science Nexus

International Symposium on Fisheries Sustainability

STRENGTHENING THE SCIENCE-POLICY NEXUS



INTRODUCTION

- Oceans & Ecosystem Services
 - Food: Protein, vitamins, minerals, fatty acids
 - Biodiversity: supports ecosystem services
- Food provision requires ecosystem function
- Concerns: Overexploitation, habitat loss, etc.
- How to jointly provide food and biodiversity?

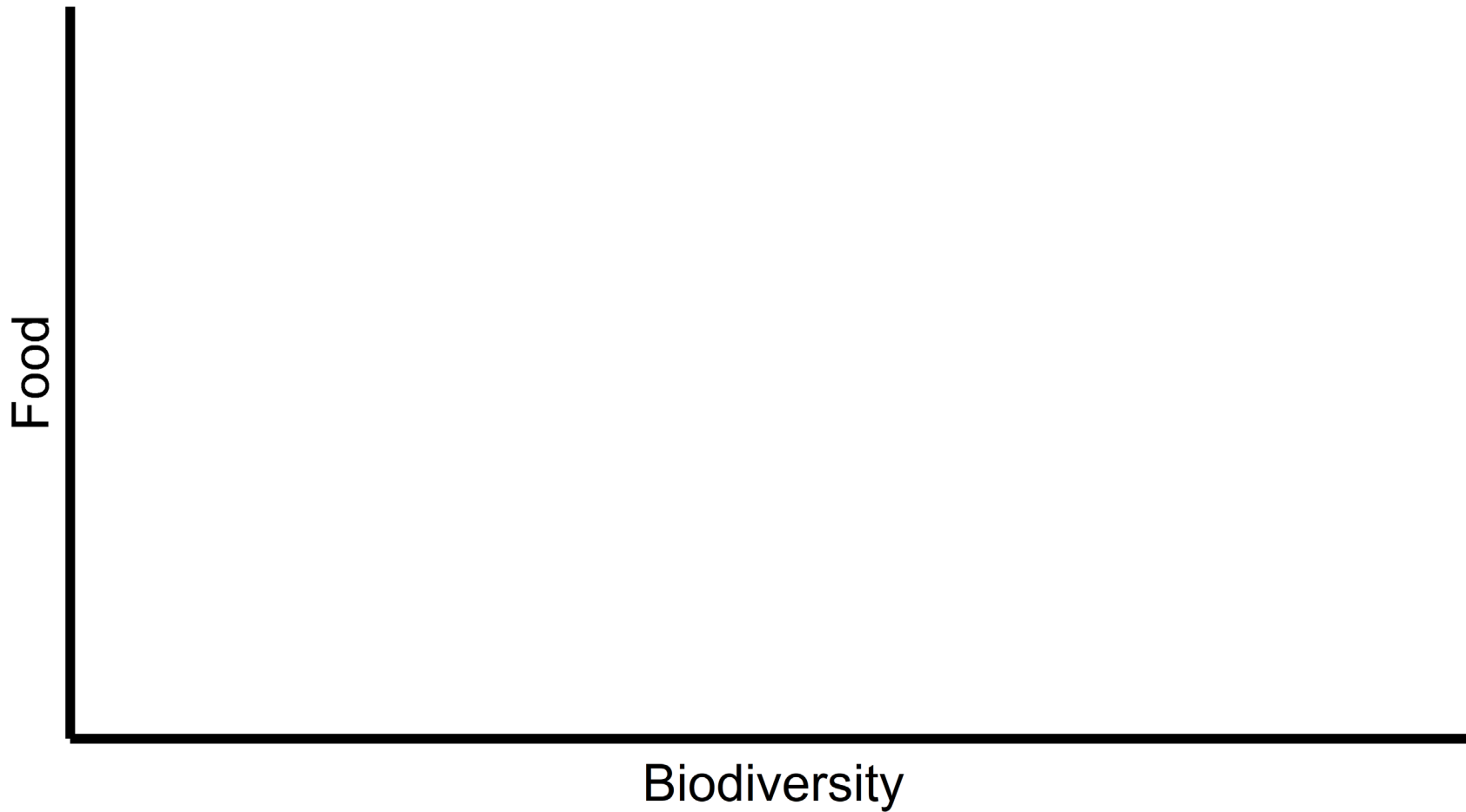


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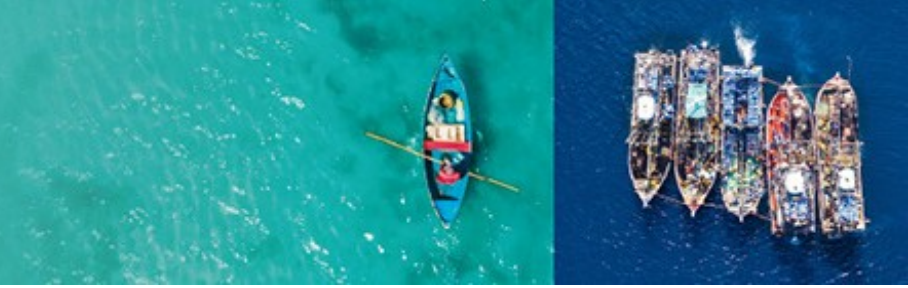
STRENGTHENING THE SCIENCE-POLICY NEXUS



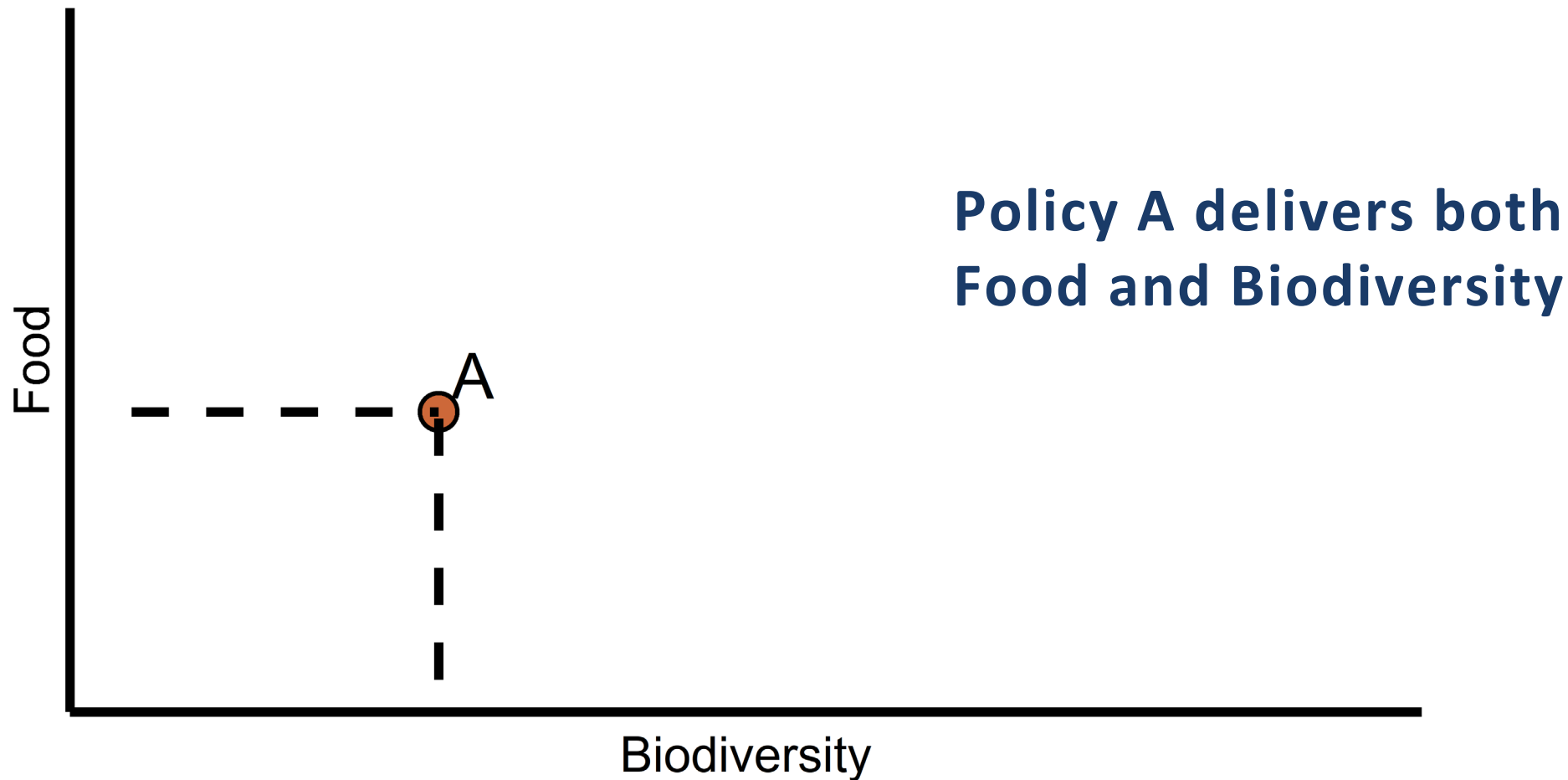
A CONCEPTUAL FRAMEWORK



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A PARTICULAR POLICY OR GOVERNANCE SYSTEM

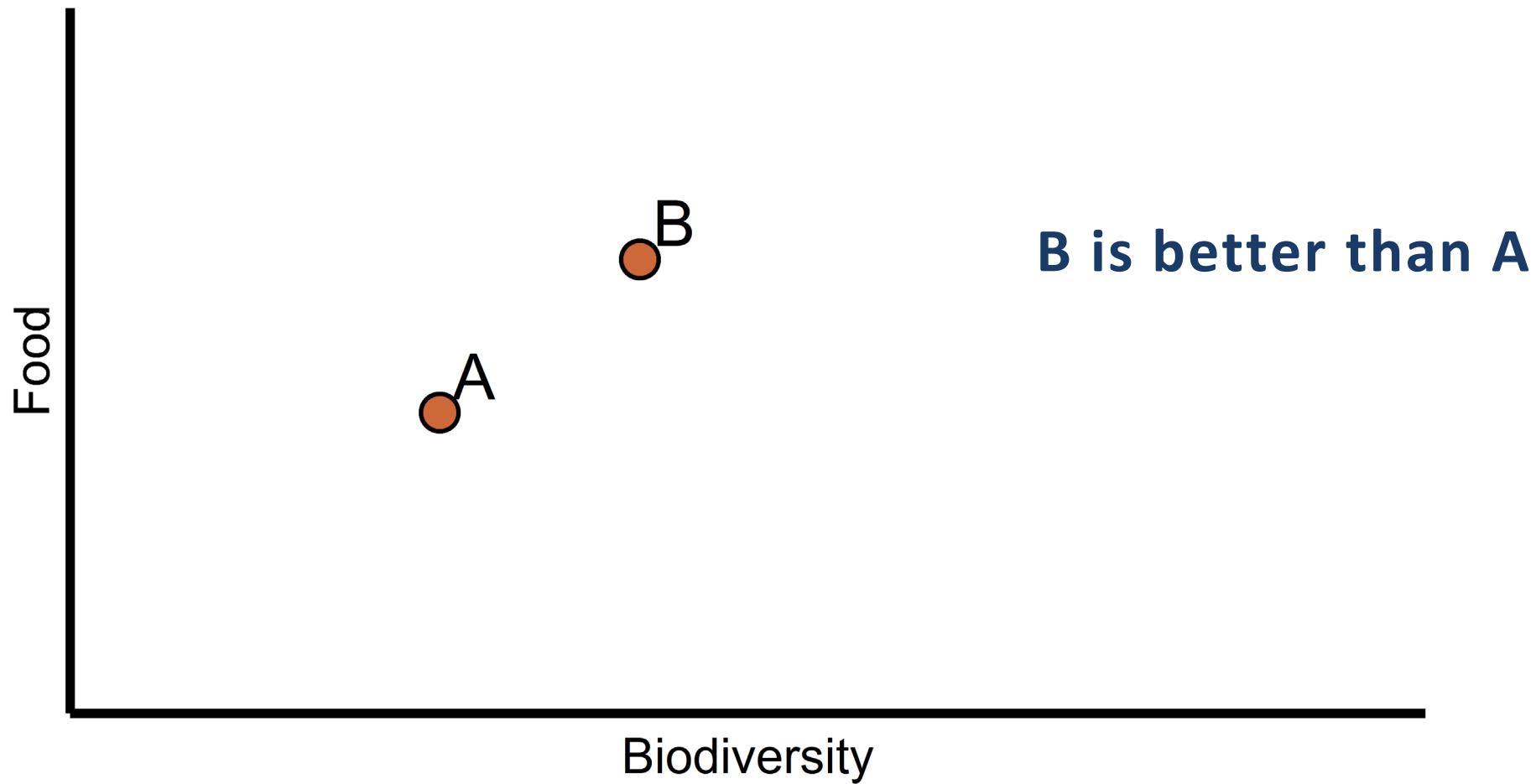


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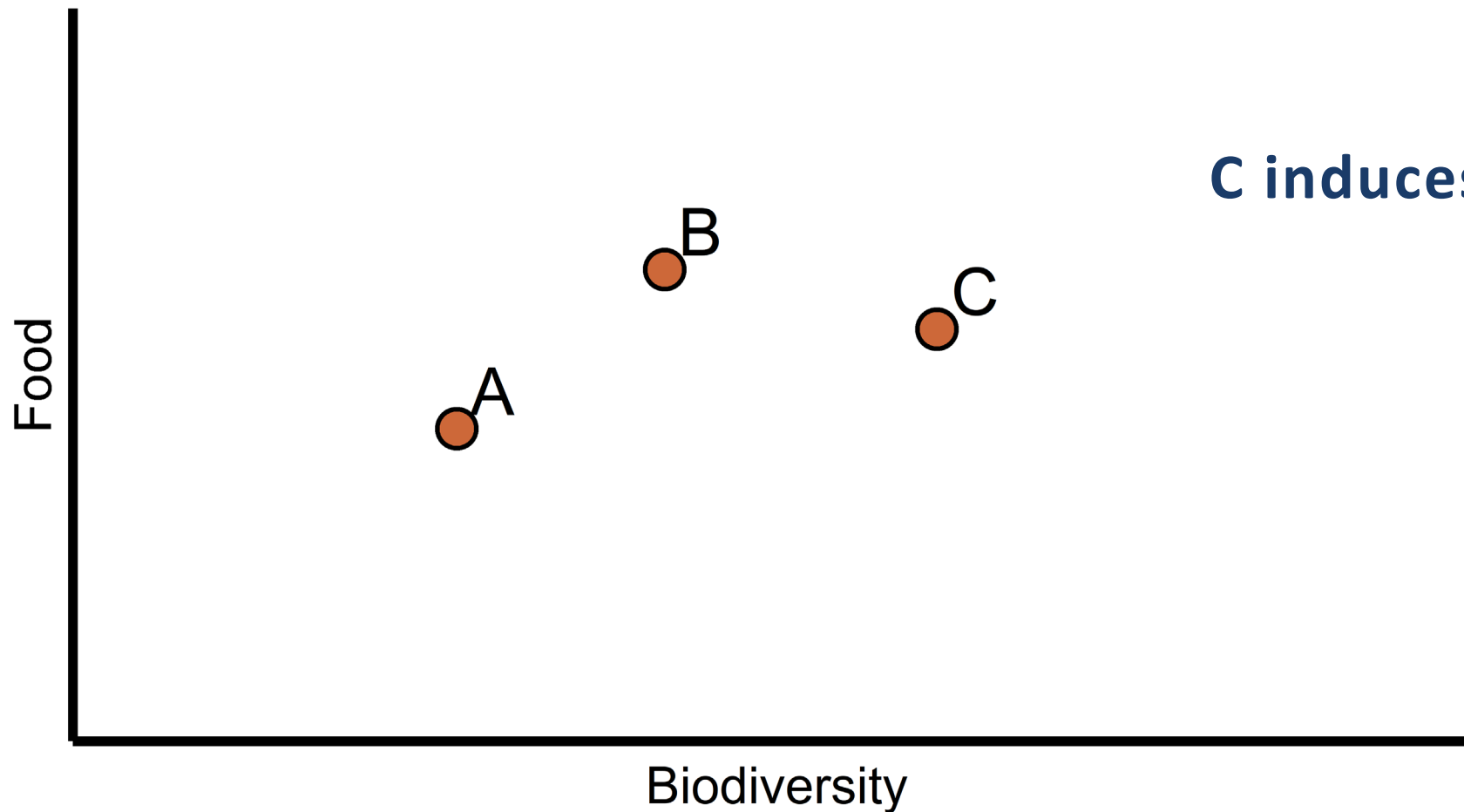
A BETTER POLICY



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A TRADEOFF BETWEEN FOOD AND BIODIVERSITY



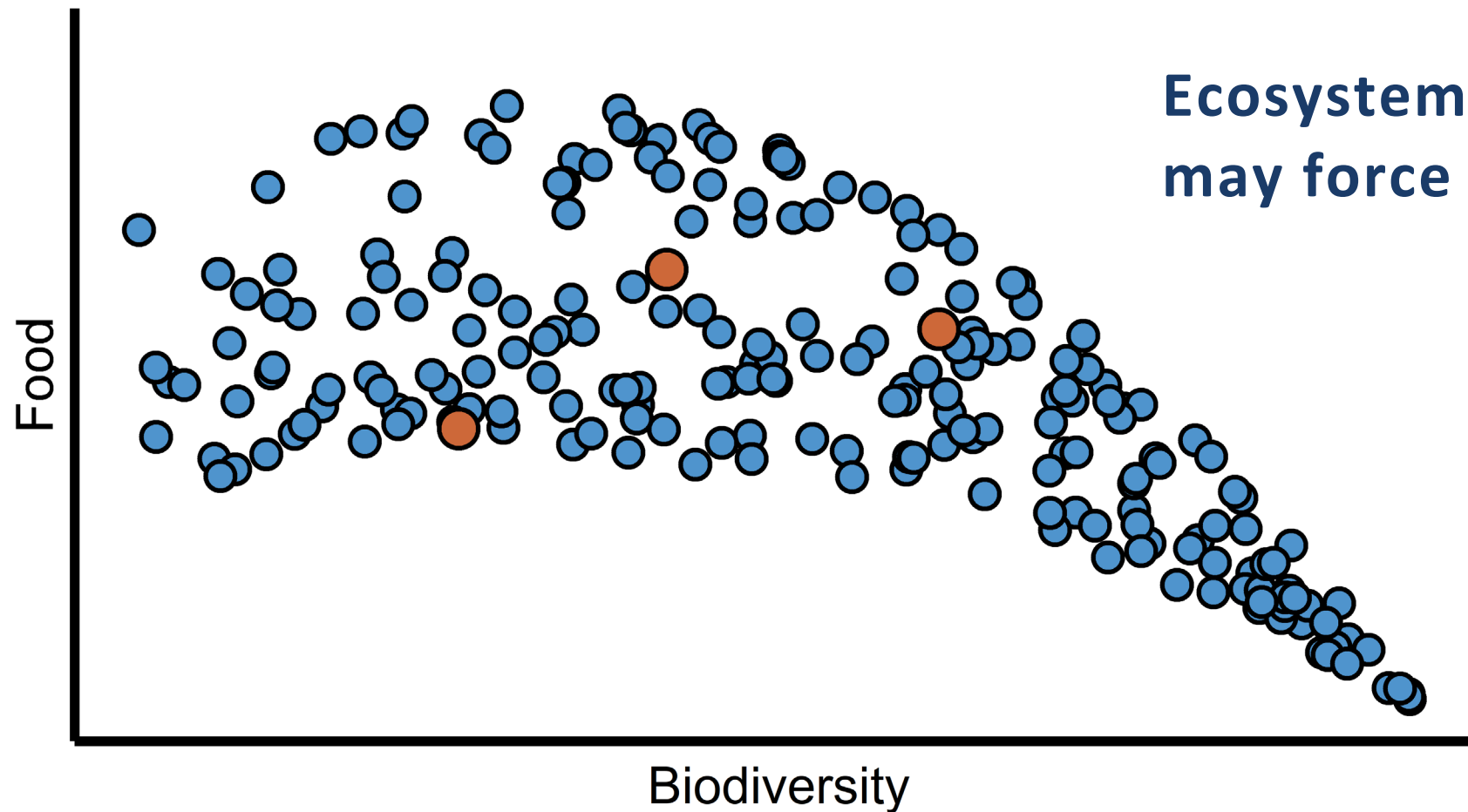
C induces a tradeoff

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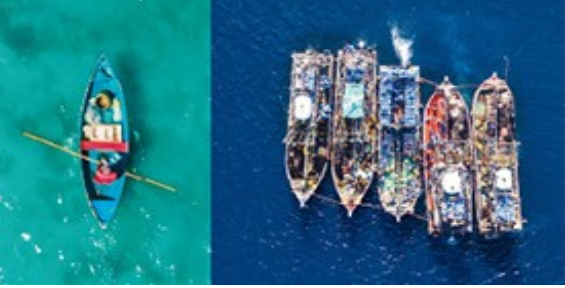
MANY VIABLE POLICIES



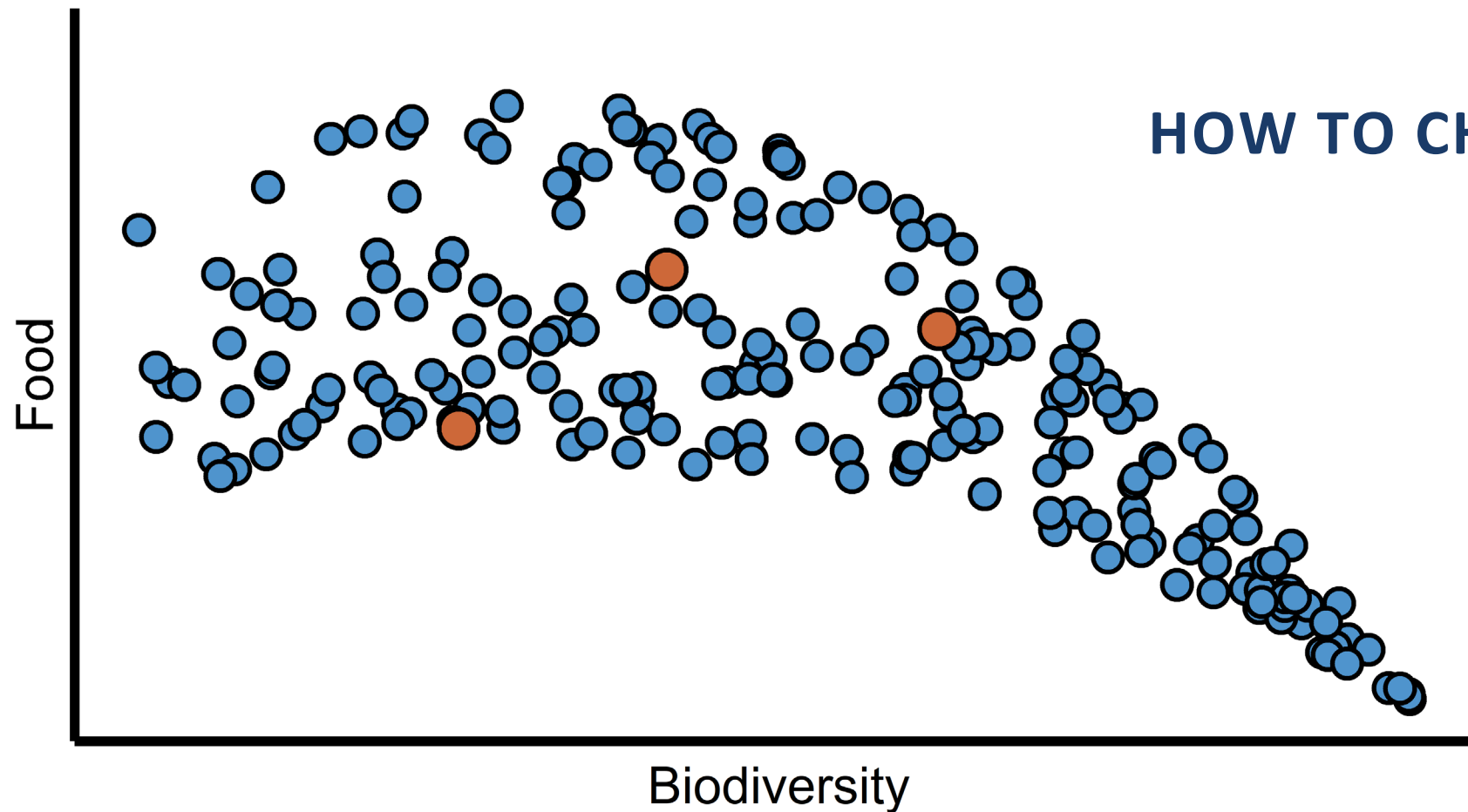
Ecosystem constraints
may force tradeoffs

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MANY VIABLE POLICIES



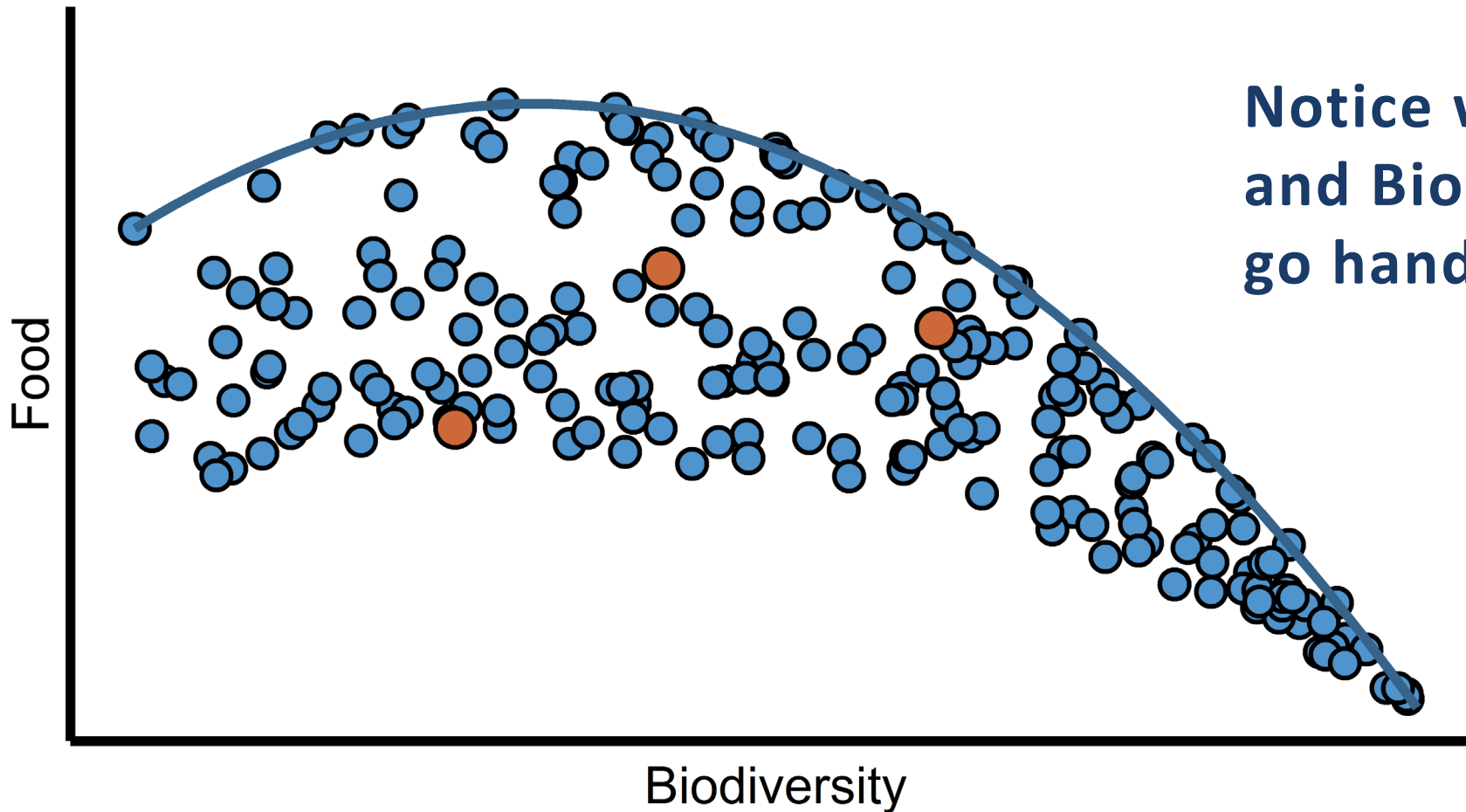
HOW TO CHOOSE?

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AN “EFFICIENCY FRONTIER”



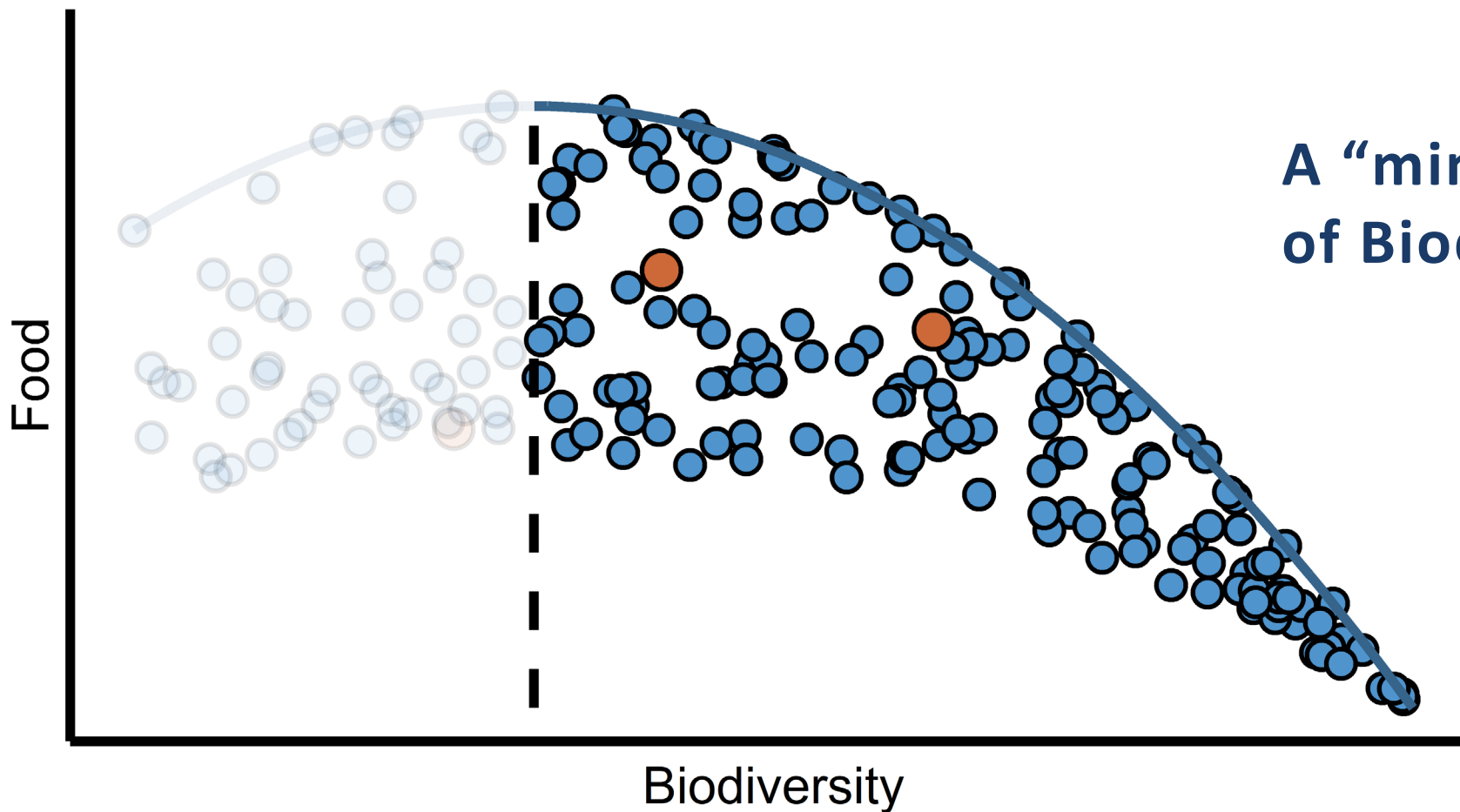
Notice when Food and Biodiversity go hand-in-hand

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AVOID POLICIES THAT REDUCE FOOD AND BIODIVERSITY

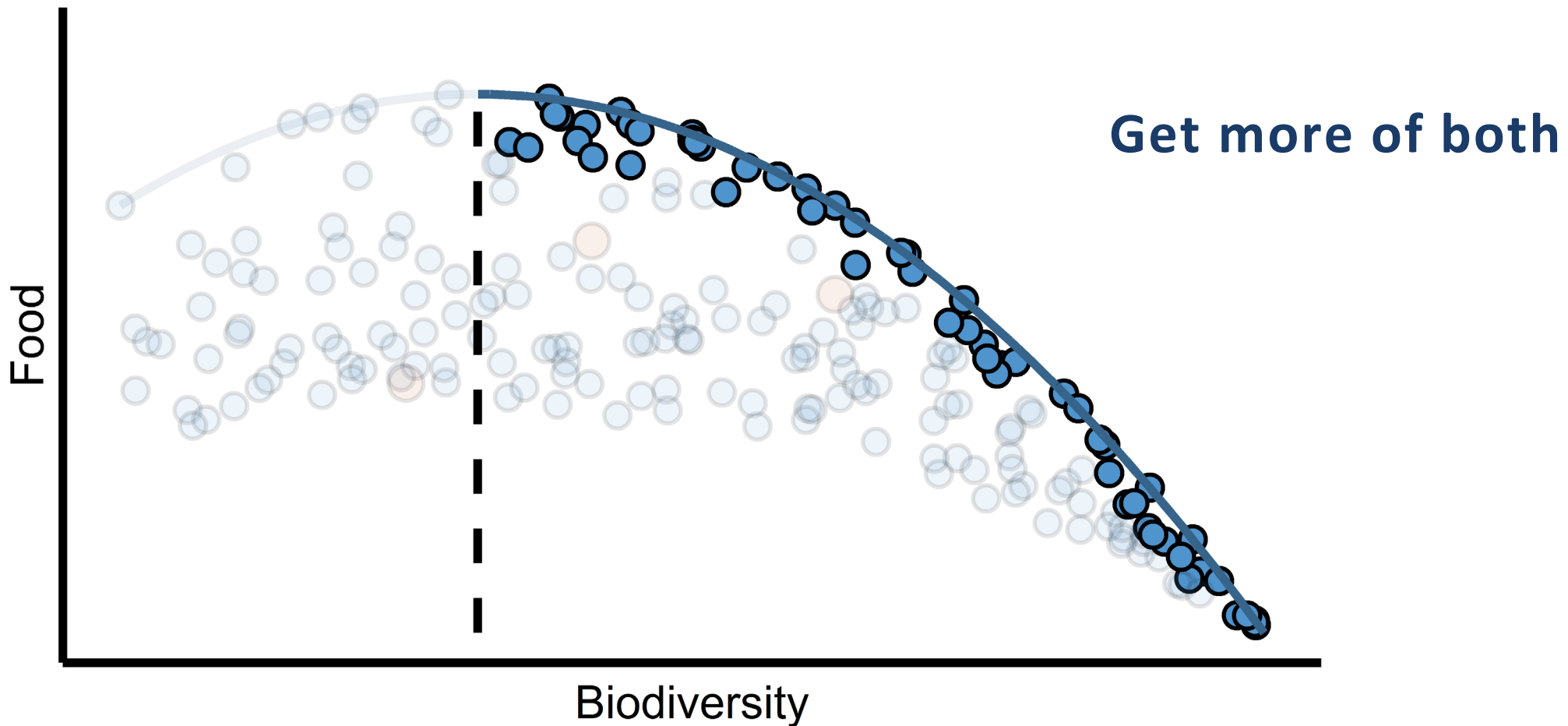


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ELIMINATE INFERIOR POLICIES

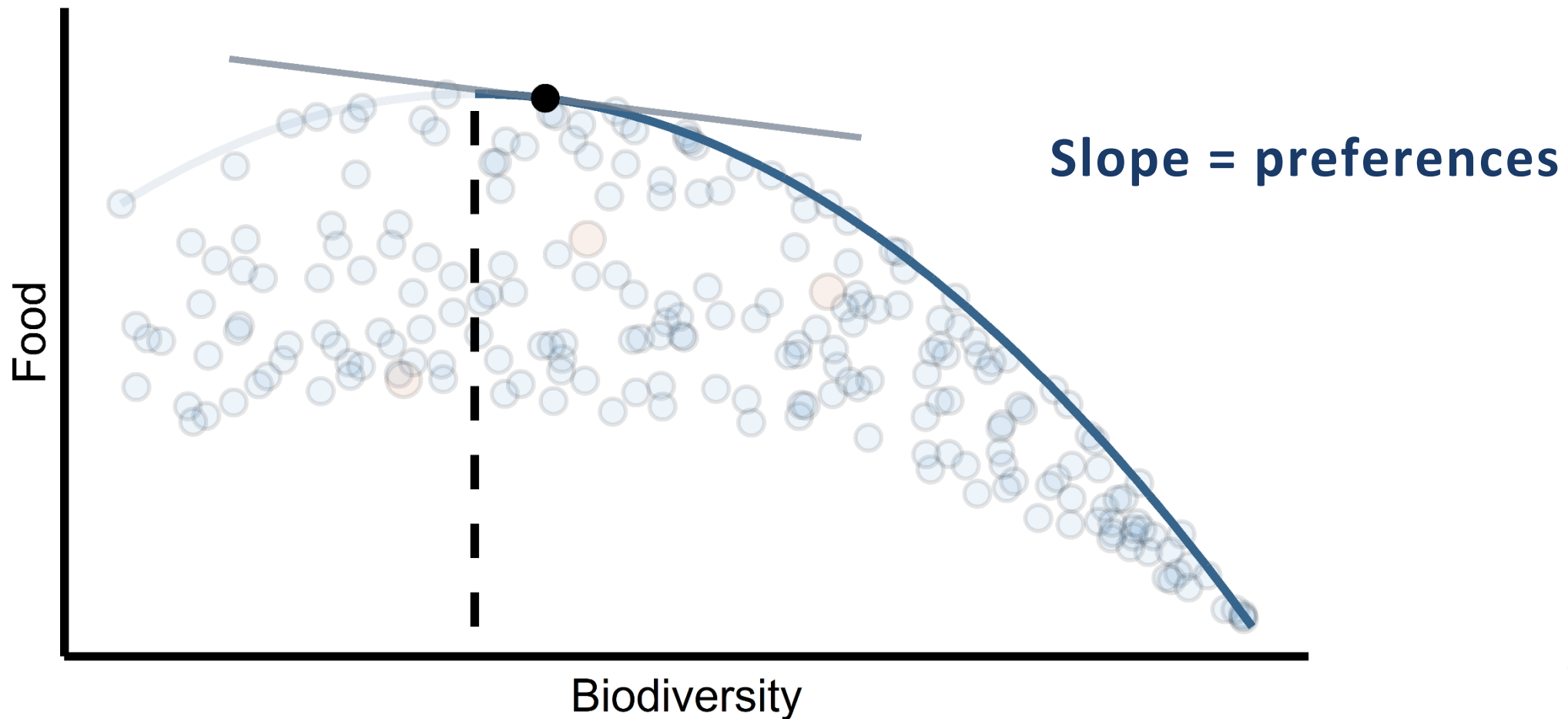


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FINAL CHOICE WILL DEPEND ON SOCIAL PREFERENCES

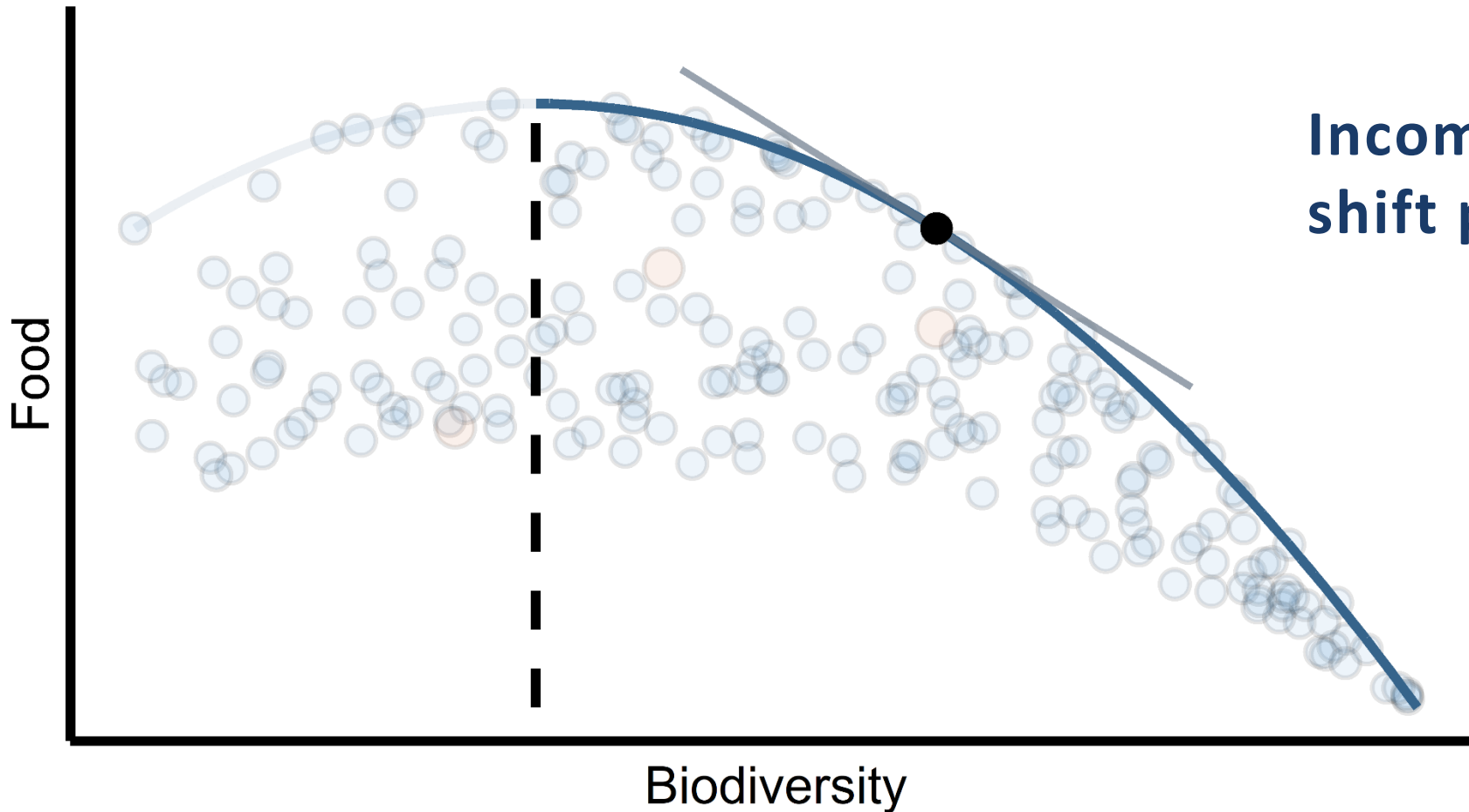


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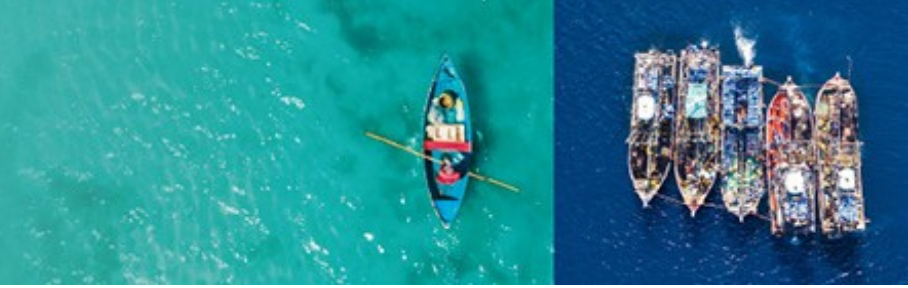
PREFERENCES MAY SHIFT OVER TIME



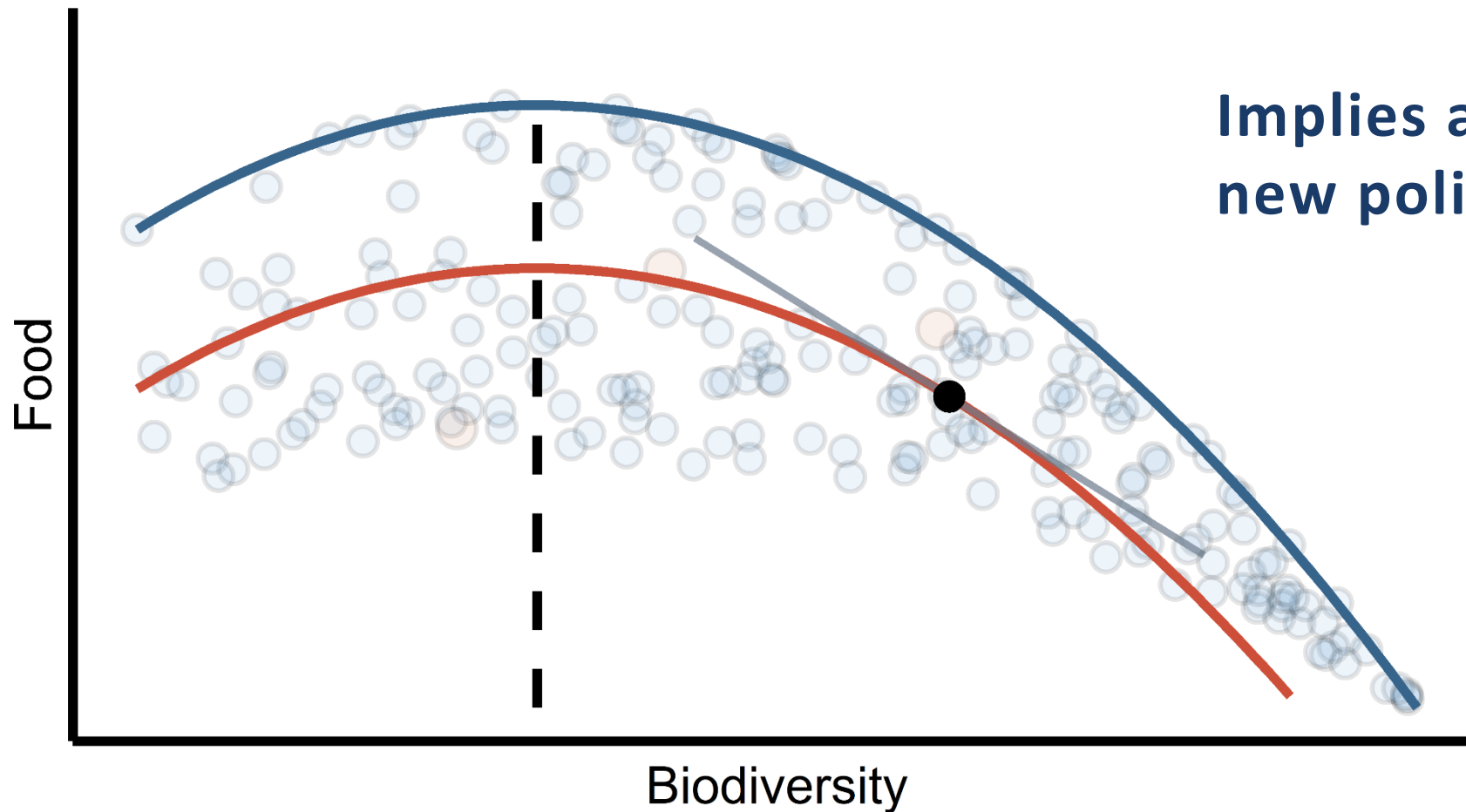
Income growth may shift preferences

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CLIMATE CHANGE ALTERS POSSIBILITIES



Implies a need for new policies

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ACHIEVING EFFICIENT JOINT PROVISION REQUIRES:

- Provide **Biodiversity** *for Food*
- Ensure long-term **stewardship**
- Harness local **knowledge**
- Benefit diverse **stakeholders**
- Balance **tradeoffs**



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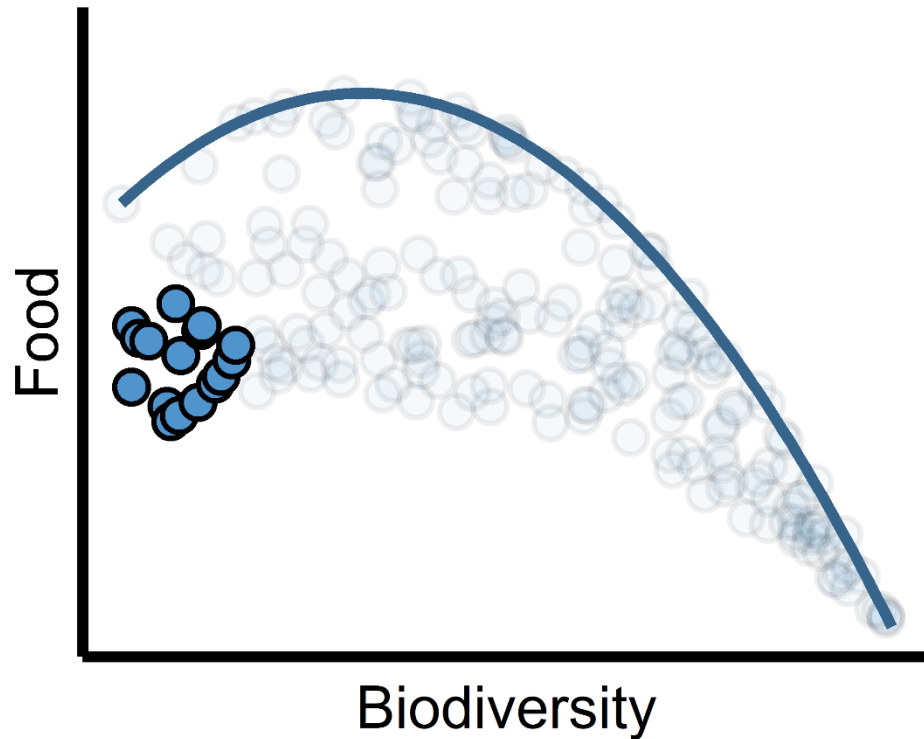
DO CURRENT INSTITUTIONS INCENTIVIZE JOINT PROVISION?

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OPEN ACCESS



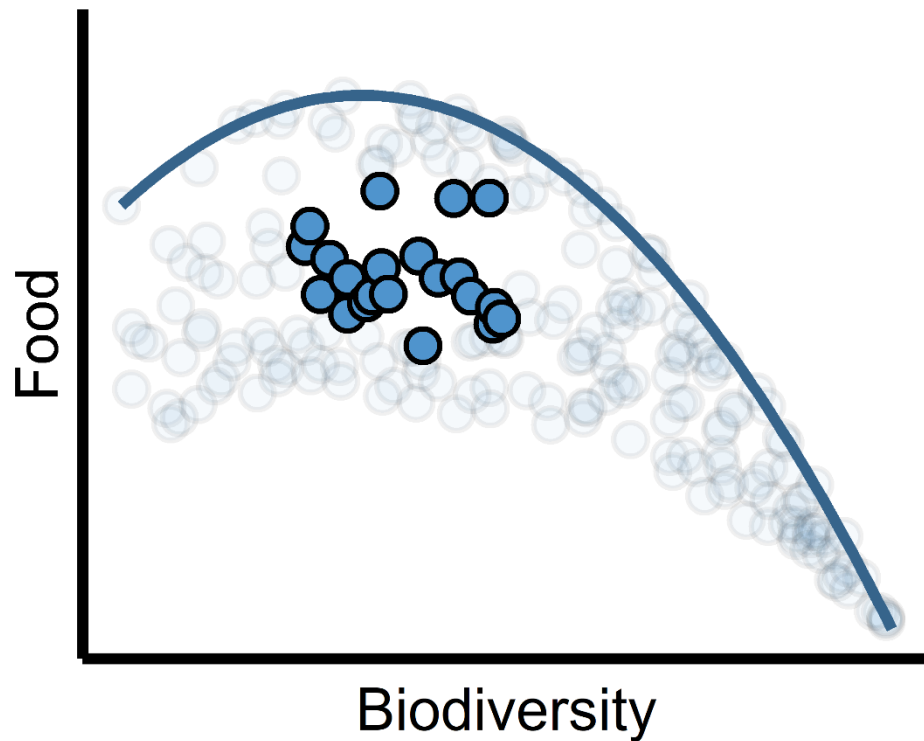
Incentive | Performance

- Food/biodiversity nexus
- Long-term stewardship
- Local knowledge
- Diverse stakeholders
- Balances tradeoffs





SINGLE-SPECIES FISHERY MANAGEMENT



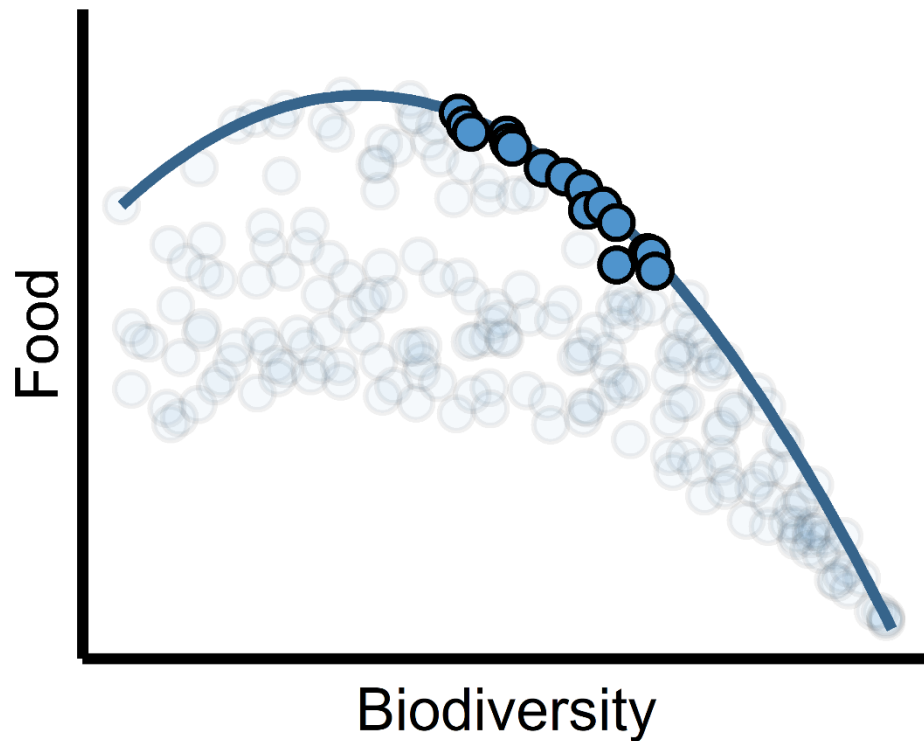
Incentive | Performance

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MULTI-SPECIES FISHERY MANAGEMENT



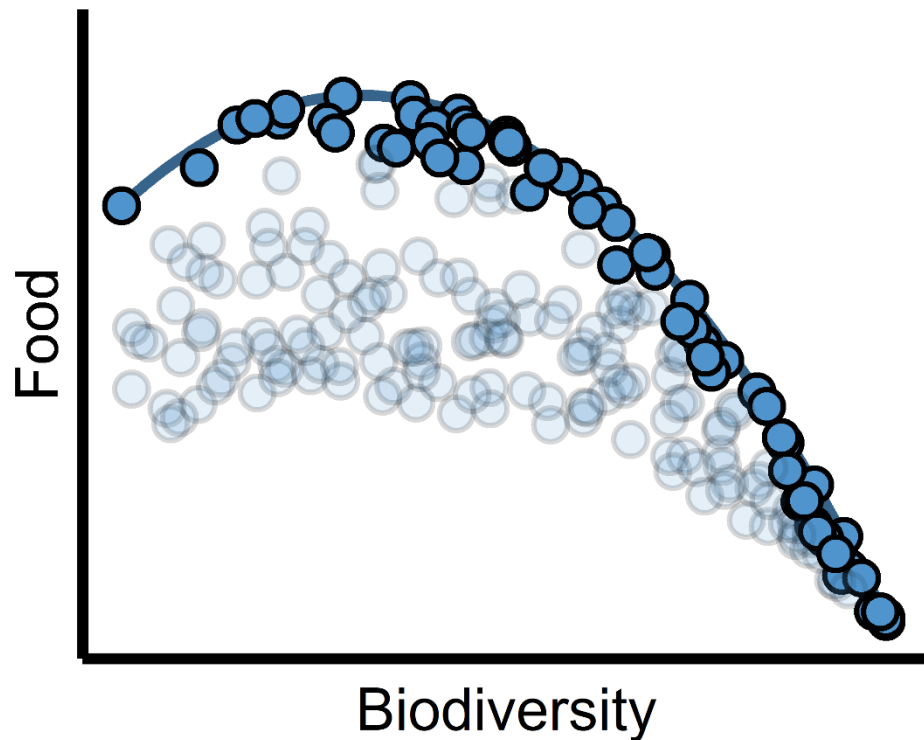
Incentive	Performance
● Food/biodiversity nexus	
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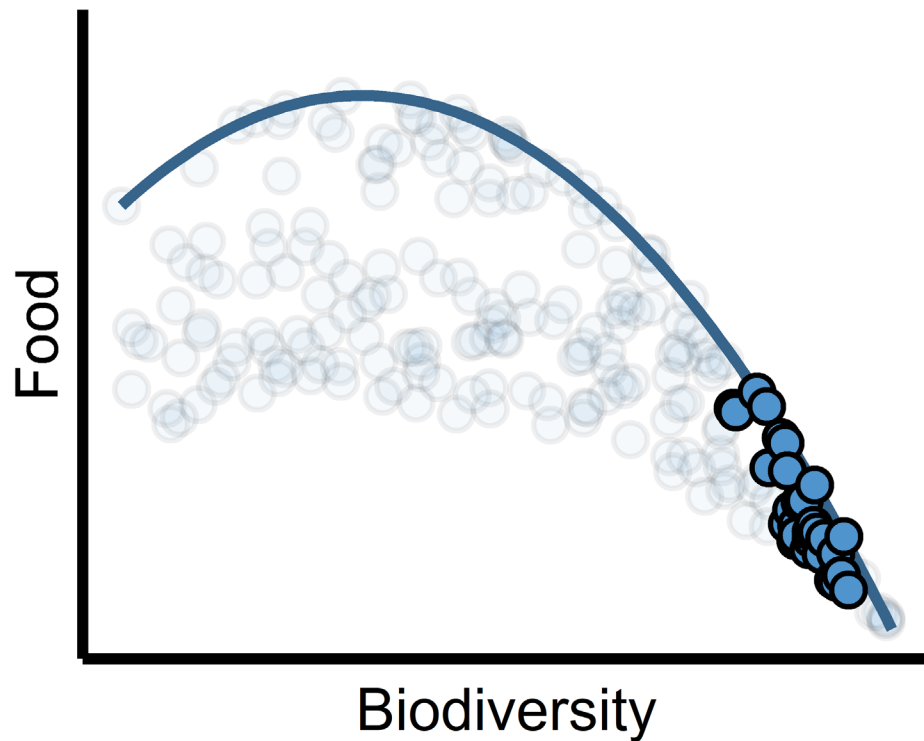
NEW TECHNOLOGY



Incentive	Performance
● Food/biodiversity nexus	
● Long-term stewardship	
● Local knowledge	
● Diverse stakeholders	
● Balances tradeoffs	



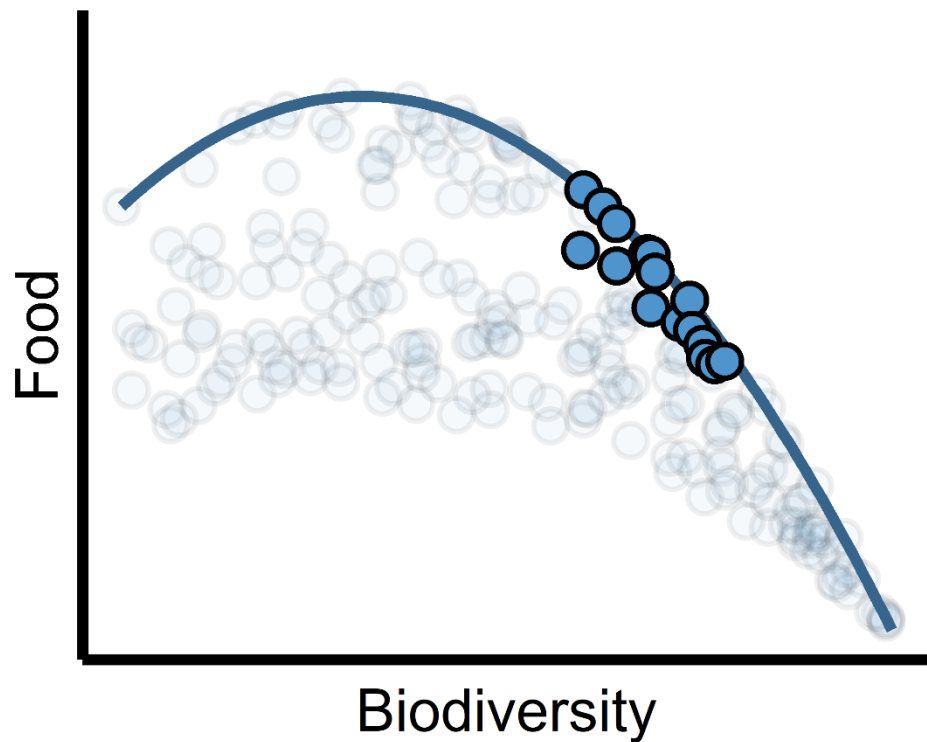
MARINE RESERVES



Incentive	Performance
<ul style="list-style-type: none">● Food/biodiversity nexus● Long-term stewardship● Local knowledge● Diverse stakeholders● Balances tradeoffs	<ul style="list-style-type: none">● ● ● ● ● 



MULTIPLE-USE MPAs



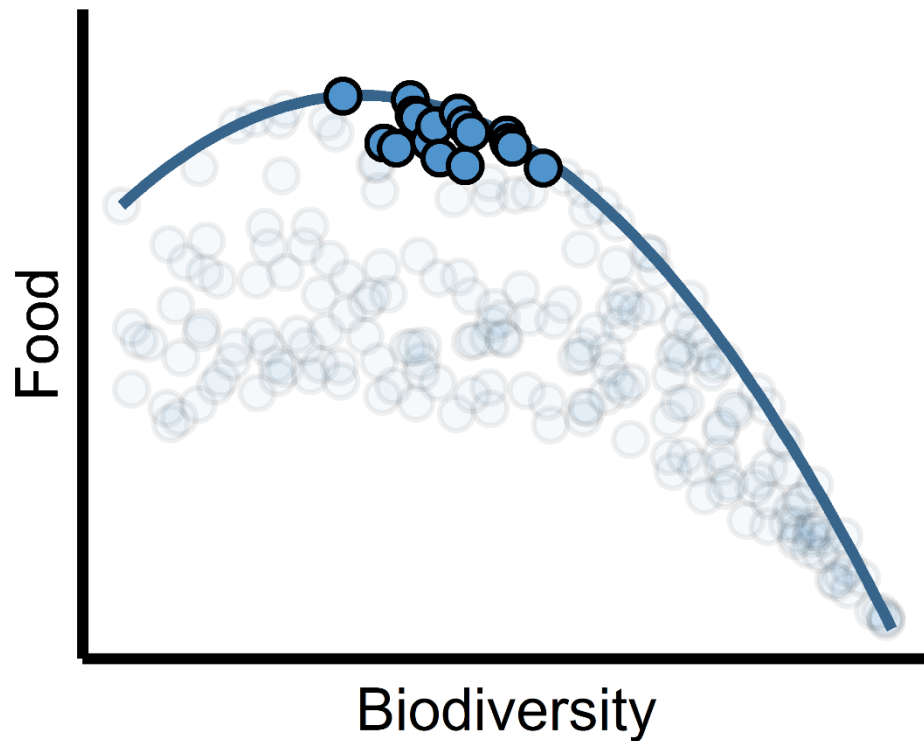
Incentive	Performance
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TURFs, COOPERATIVES, & CONCESSIONS



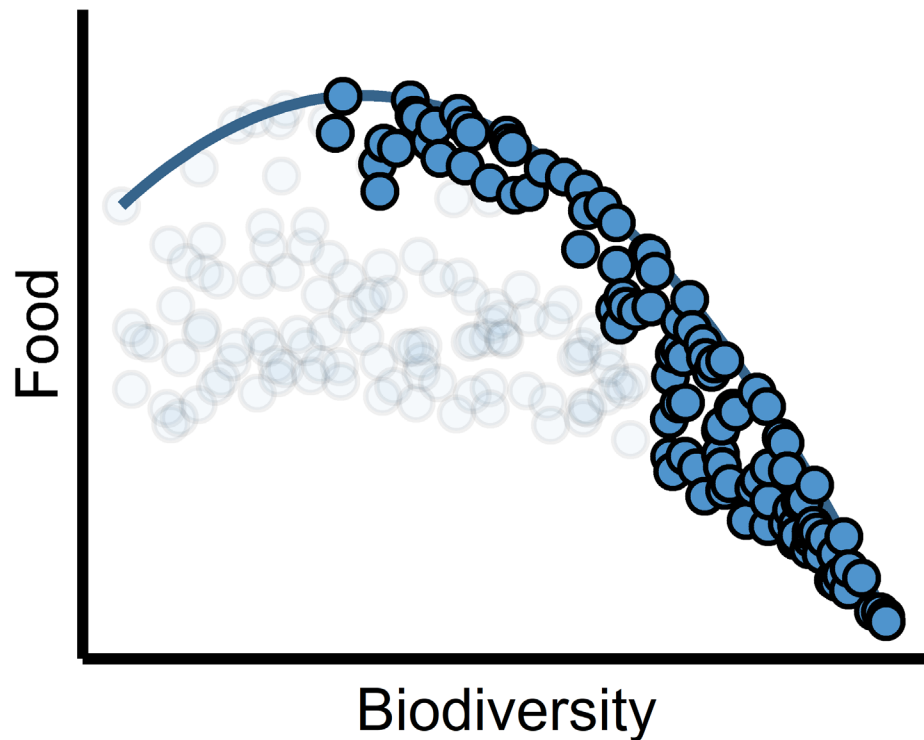
Incentive	Performance
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ECOSYSTEM SERVICE MARKETS + TURFs



Incentive	Performance
● Food/biodiversity nexus	
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CONCLUSIONS

- Food provision requires biodiversity
- Many ecosystems can generate win-win benefits
- When tradeoffs exist, we must be deliberate
 - Avoid false tradeoffs
- Thoughtful reforms
 - Solve easy problems first
 - Harness new technology
 - Embrace joint provision





Food and Agriculture
Organization of the
United Nations

SUSTAINABLE
DEVELOPMENT
GOALS

Partnering with FAO to make fisheries sustainable

Working for  #ZeroHunger