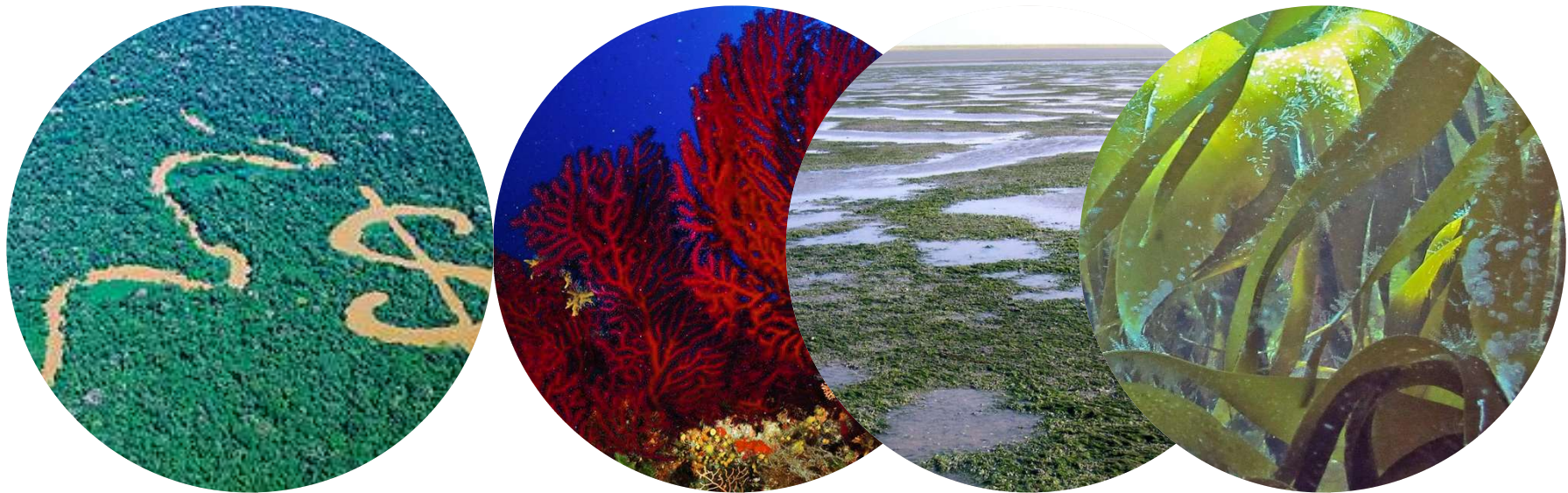

Private finance of marine restoration

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Background: MERCES

- Marine ecosystem restoration in EU waters
 - Norway, The Netherlands, Italy, Spain, Azores, ...
- Costs of restoration
- Benefits of restoration
- Private finance of restoration
 - What obstacles?
 - What sources?

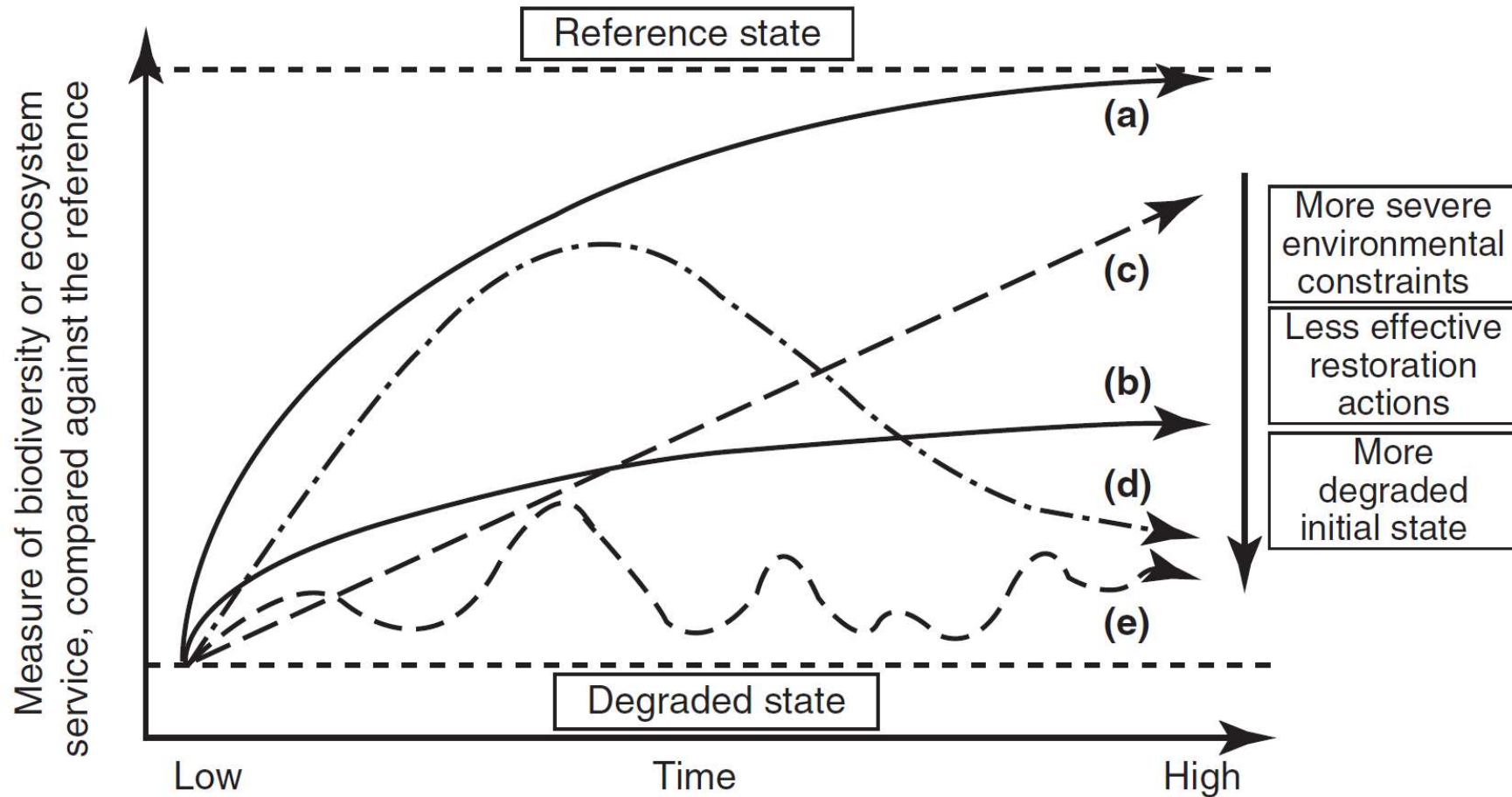
Who pays for marine restoration?

- Traditional view
 - Restoration is public good, even moral obligation
 - Government supposed to provide public goods
- Problems with the traditional view
 - Governments have other priorities, are retreating
 - Locals and NGOs may want more restoration
- Private finance
 - Growing attention for *conservation* finance
 - But how about restoration?

Obstacles to private finance

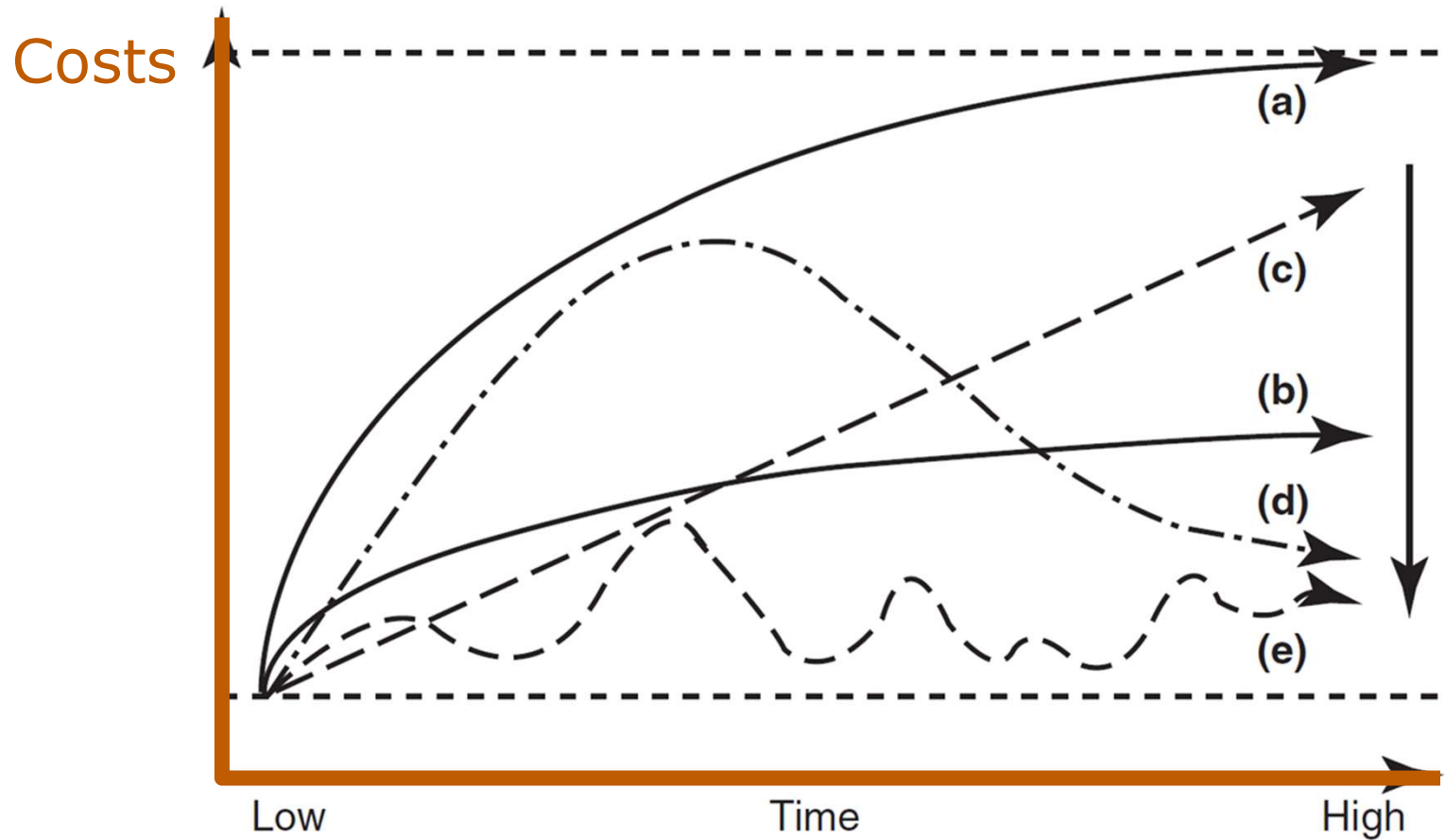
- Conservation finance (CS/WWF/McKinsey 2014):
 - Public-goods nature of benefits
 - Conservation not primarily for profit maximization
 - Scale too small for big investors
 - Socio-political constraints (e.g. access for locals)
- Restoration finance:
 - Bigger investments needed upfront
 - Longer time horizon
 - More uncertainty

Restoration takes time and is uncertain

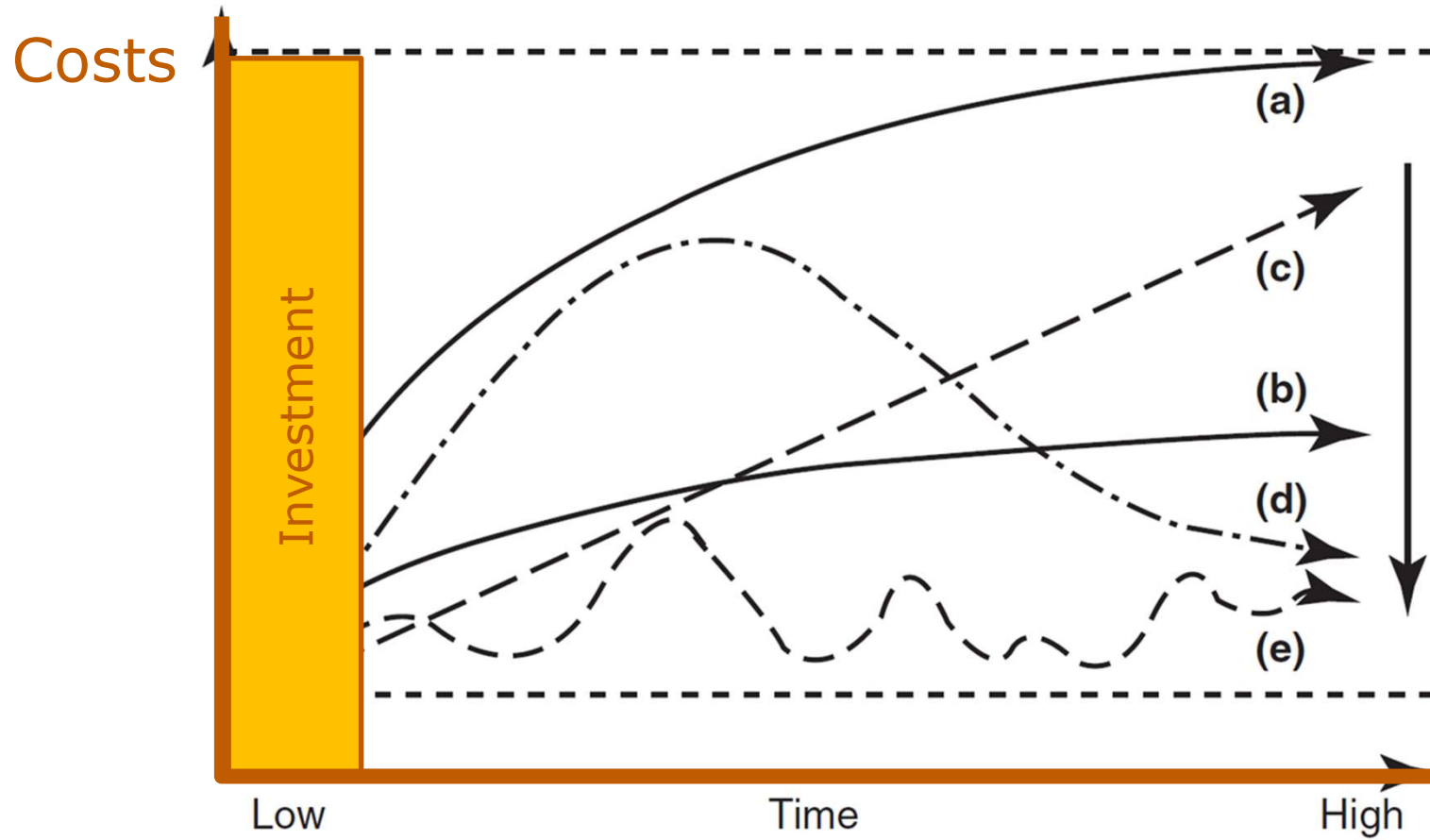


Source: Bullock et al., 2011.
Trends in Ecology and Evolution

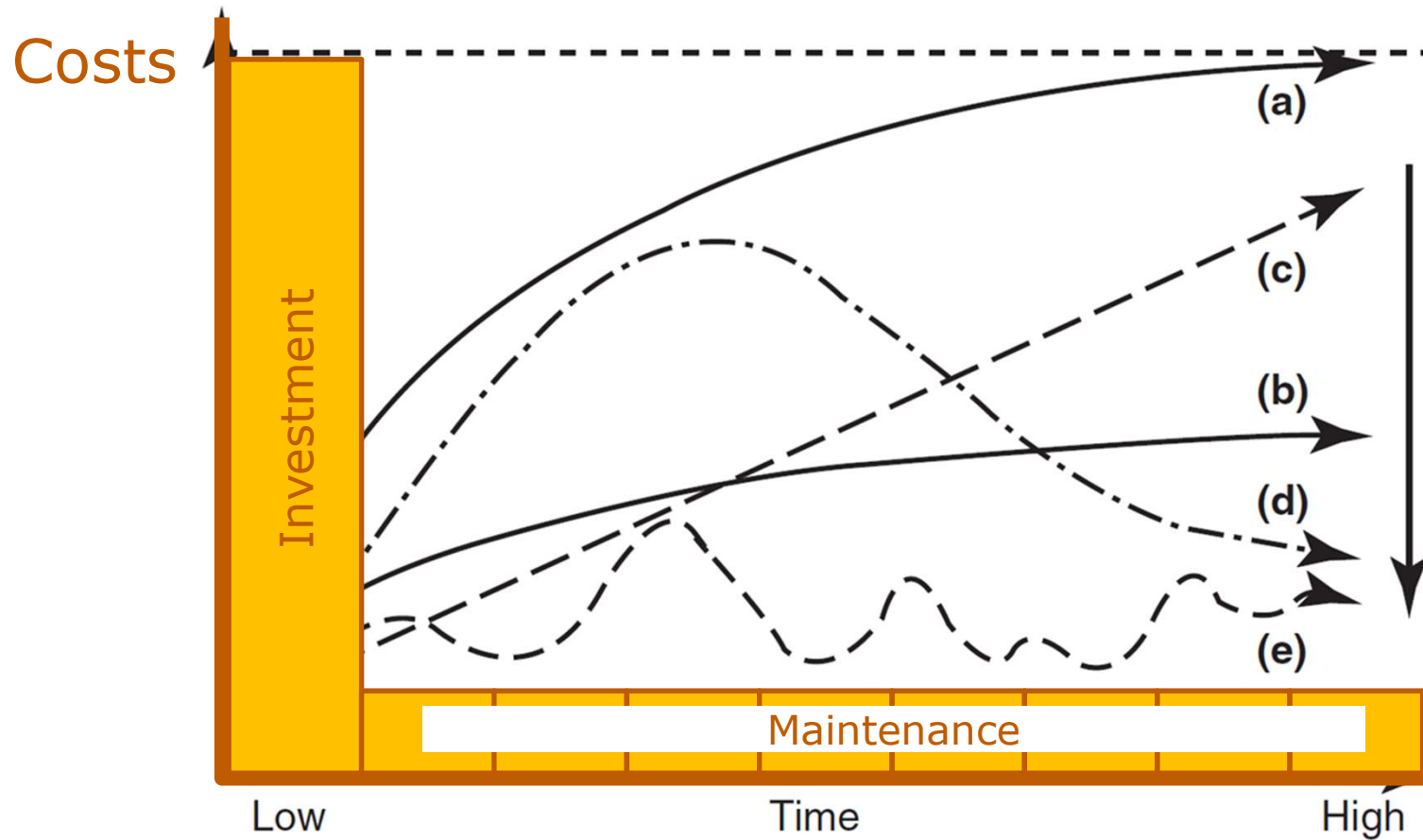
Investments are needed now



Investments are needed now



Can we be sure about maintenance?



Restoration is a risky investment

- Benefits (ecosystem services) take time to develop
 - Opportunity cost: the money we invest could have been invested elsewhere
 - Benefits might even accrue not to us but future generations
- Effects are uncertain
 - Interventions may fail
 - Benefits difficult to define and measure
 - Effects difficult to attribute to restoration

Who can finance restoration?

- Parties responsible for the damage
- Parties benefiting directly from restoration
- Investors
- Voluntary donations

Payment by 'perpetrators'

- Liability law
 - Can we identify the perpetrator?
 - To what extent can he/she be made responsible?
- Catastrophe bonds: a form of insurance
 - Firms in risky business buy bonds
 - No disaster -> investment paid back with interest
 - Disaster -> investment used for restoration
 - Note the ceiling to the liability
- Offsets: restore here to compensate damage elsewhere
 - Ad hoc
 - Offset markets

Payments for Ecosystem Services

- 'Buyers' of ecosystem service pay 'provider' for service provision
 - Buyer can be excluded from use if no payment
 - Provider secures provision
- Limitations in restoration
 - Payment needed long before services are provided
 - Payment only works for specific services
 - Poor excludability of users invites free-riding

Private investors

- Do not benefit from services directly, but can help bridge time gap
- Type of investors:
 - Wealth-preserving
 - Return-oriented investors
- Instruments
 - Direct investment
 - Green bonds

Voluntary donations

■ Charities

- Often individuals or families, e.g. Walton, Gates, Pew, Packard
- Usually no institutional investors

■ Crowdfunding (Gallo-Cajiao, forthcoming):

- USD 4.8 mln since 2009
- Median size USD 4000
- 21% of projects regarded on-ground actions (management, building facilities)
- 8.8% of projects regarded marine ecosystems

Conclusions

- Challenges
 - Public-goods nature of (some) ecosystem services
 - Time gap and uncertainty
 - Trust between parties, not least investors
 - May apply only to limited set of services
- Finance will be at most a mix of public and private

Open research questions

- Difficulty finding respondents
 - Low response rates
 - Have we been looking in the wrong places?
- Crowdfunding
 - Stated preference studies, experiments
 - Scope may be limited
- Institutional investors and donors
 - Action research, learning-by-doing
 - Mismatch donors <-> projects

Thank you

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