

Dynamic Interplay: The role of institutions in Ecosystem Approaches to Management

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Managing Change in the Arctic

“What does climate change teach us?”

“--First, that everything is connected”

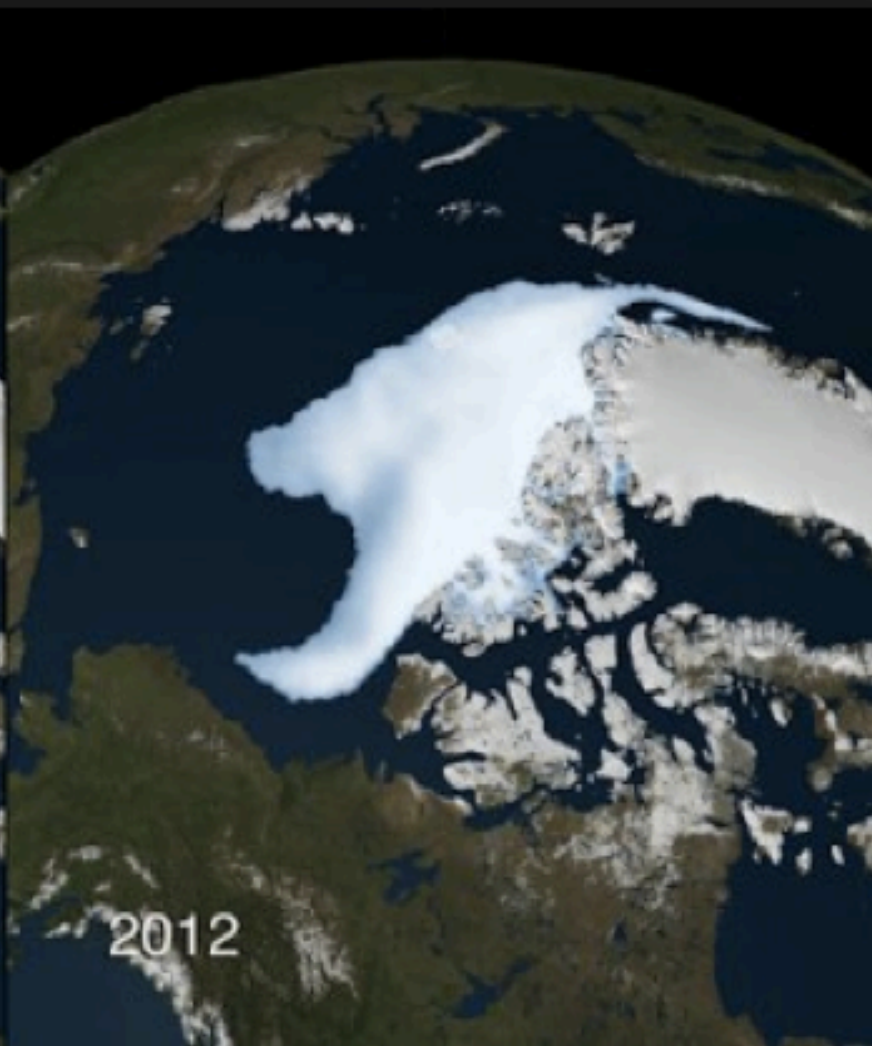
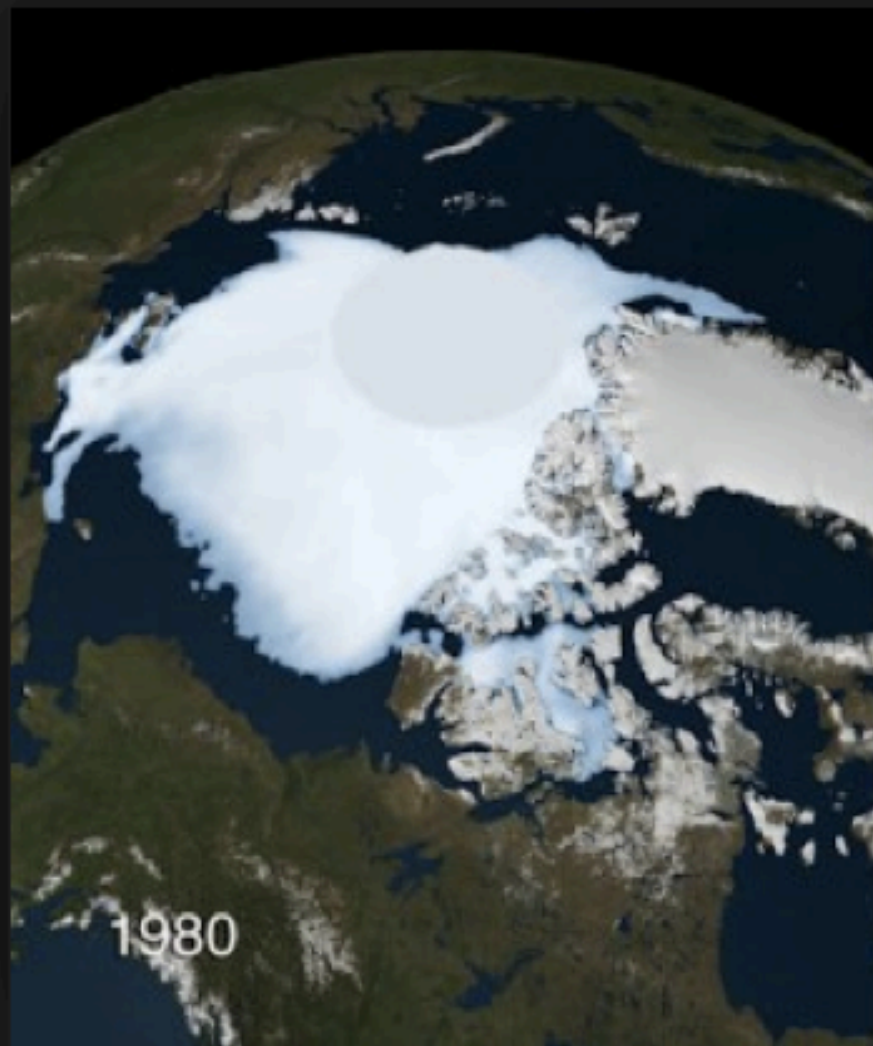
R. Solnit 2016

“Facing perhaps the biggest existential crisis in human history...we need to ask ourselves -

Who are we in the face of this?

What does it ask of us?

And how do we respond?”







FIDDLING WHILE ROME BURNS



“Everyone knows each other and comes together when there is a problem”

**Student from Kaktovik
On what it means to live in the Arctic**



Structure
Rules
Process
Policy
Authority



US Domestic Governance Structure

Dept of
Commerce

State
Department

EPA

Dept of
Interior

State
of
Alaska

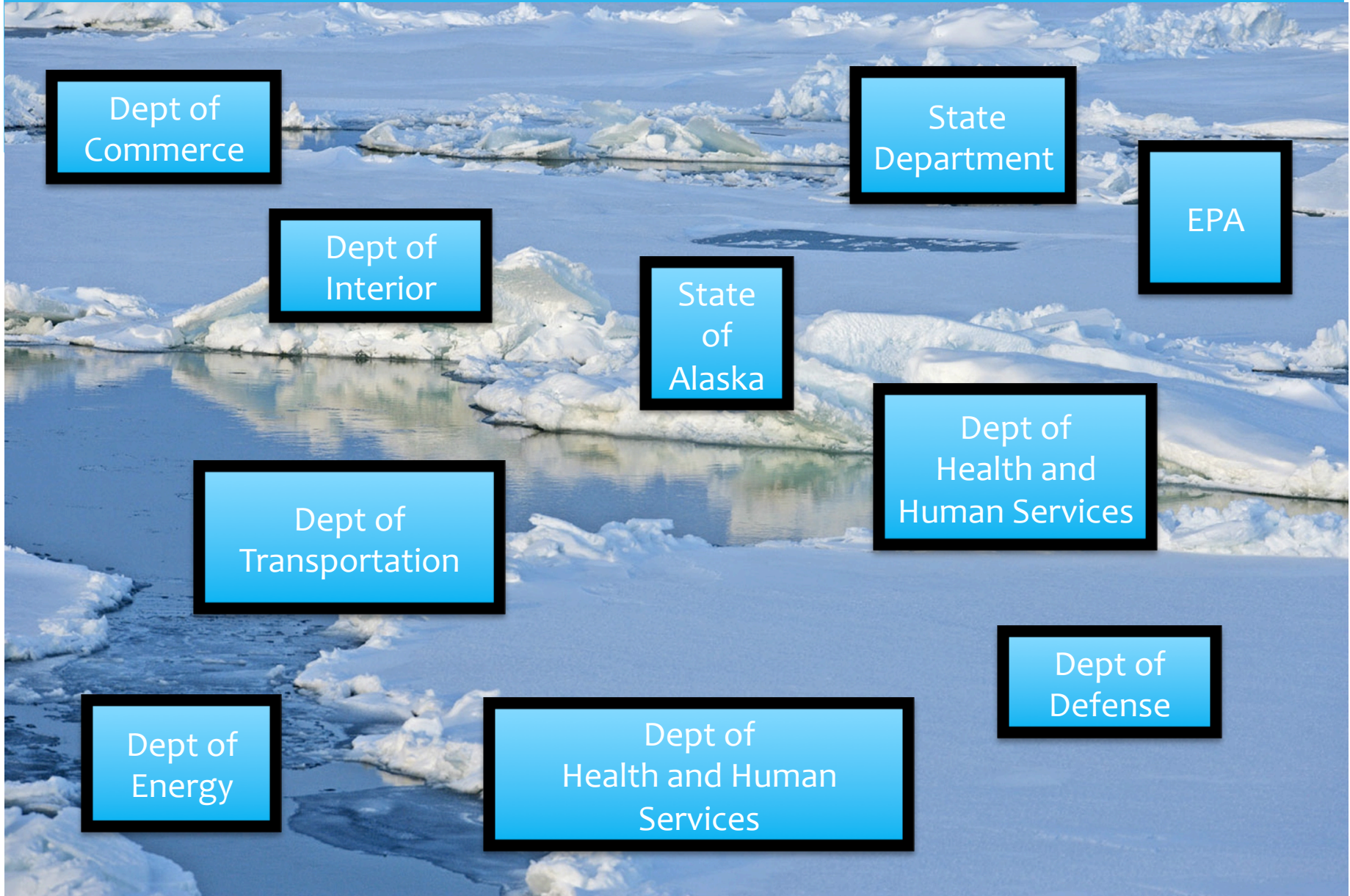
Dept of
Health and
Human Services

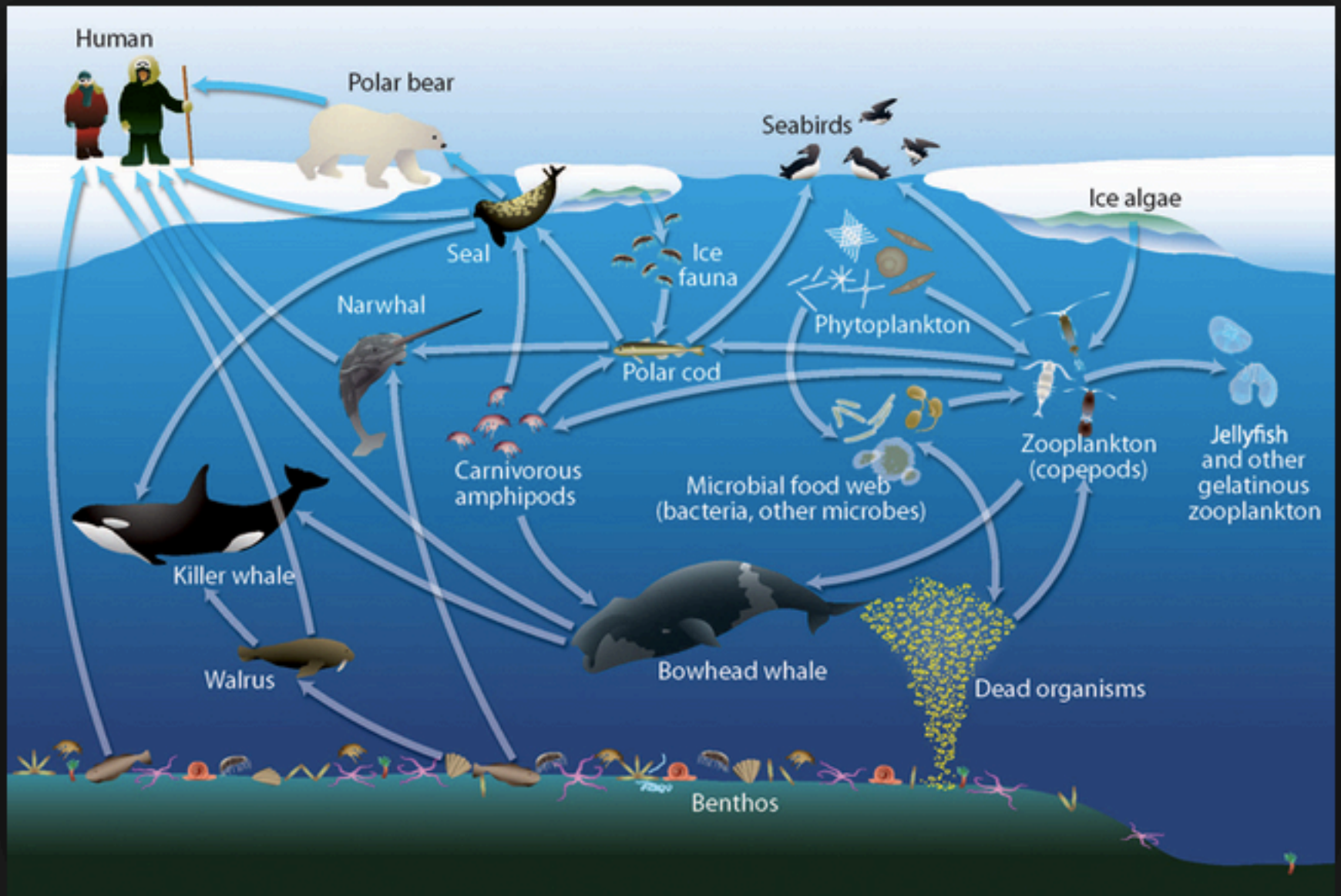
Dept of
Transportation

Dept of
Defense

Dept of
Energy

Dept of
Health and Human
Services





Institutional Structure v/v Environment

- * “FIT” ----- the compatibility of an institutional regime with the environment it is designed to serve.

(O.R. Young and others)

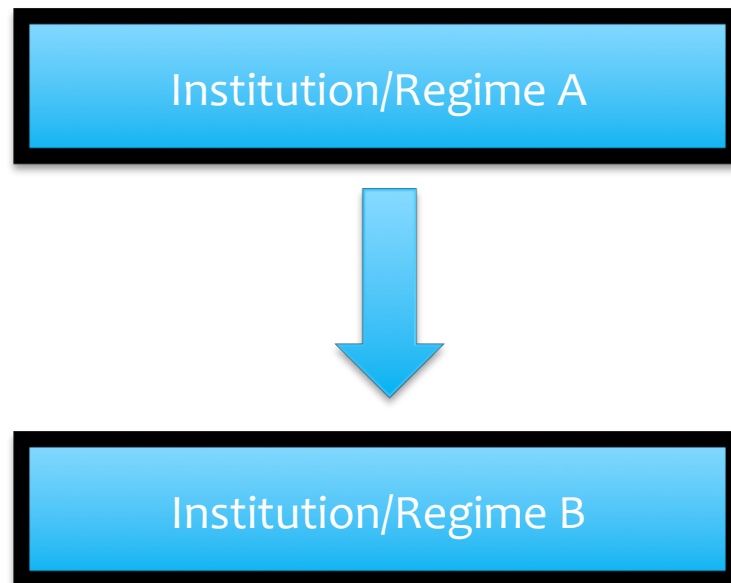
- * “A regime that ignores what turn out to be significant elements of an ecosystem cannot produce sustainable results”

O.R. Young 2002

Institutions in Action: 'Interplay'

* “Source – Target” model of Interplay

Oberthur and Gehring 2006



Institutional Interplay: The Challenge of Fit in a Rapidly Changing Arctic

- * Mismatch between a dynamic environment and the sectoral focus of a given institutional regime
- * Emergent biogeophysical system v. prescriptive institutional system
 - * Eg. Single species fisheries management > multi-species > trophic level interaction
 - * >Ecosystem based management (?)

“Source – Target” Model of Institutional Interplay

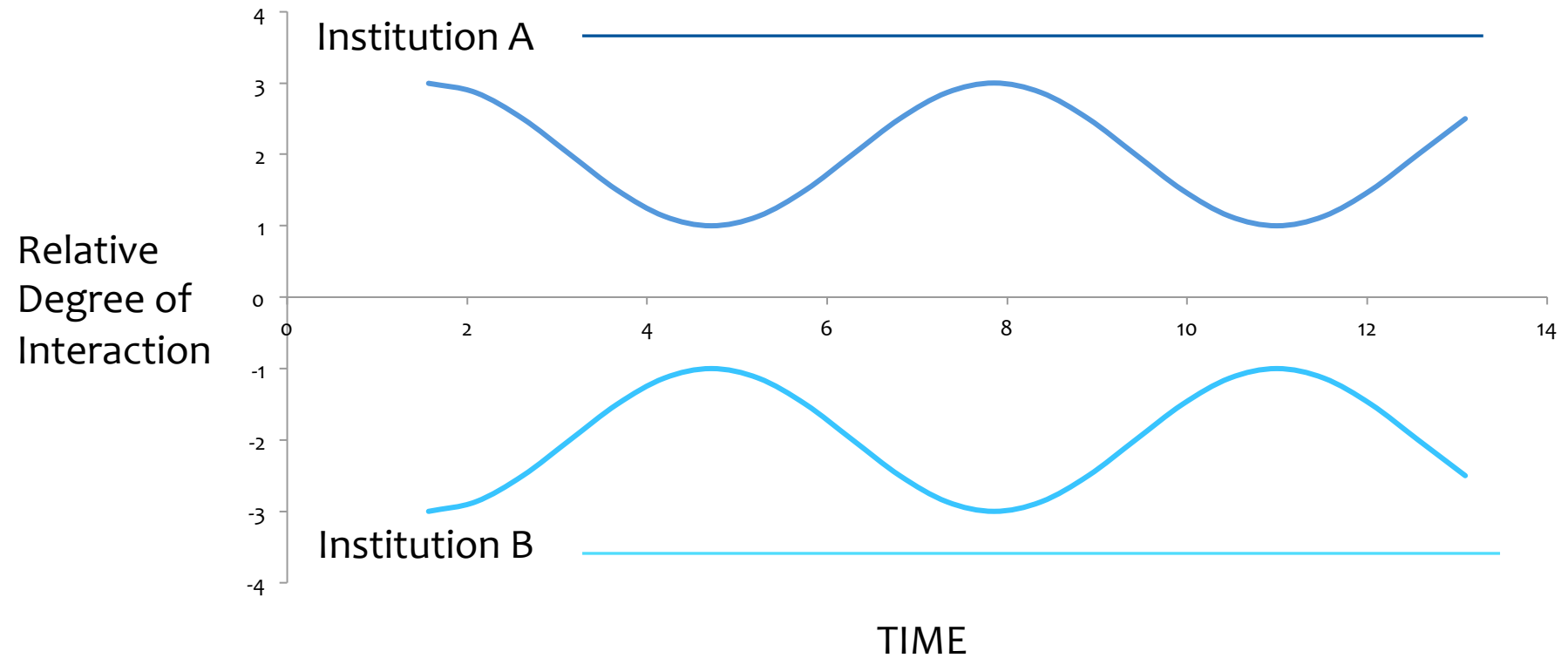
- * Issues-
 - * Responsiveness to rapid environmental change
 - * Flexibility
 - * Integration across disciplines, regimes, realms, issues
 - * Adaptive capacity
 - * Structural focus v. functional focus
- * How do we consider the question of FIT in a complex system?

Dynamic Interplay

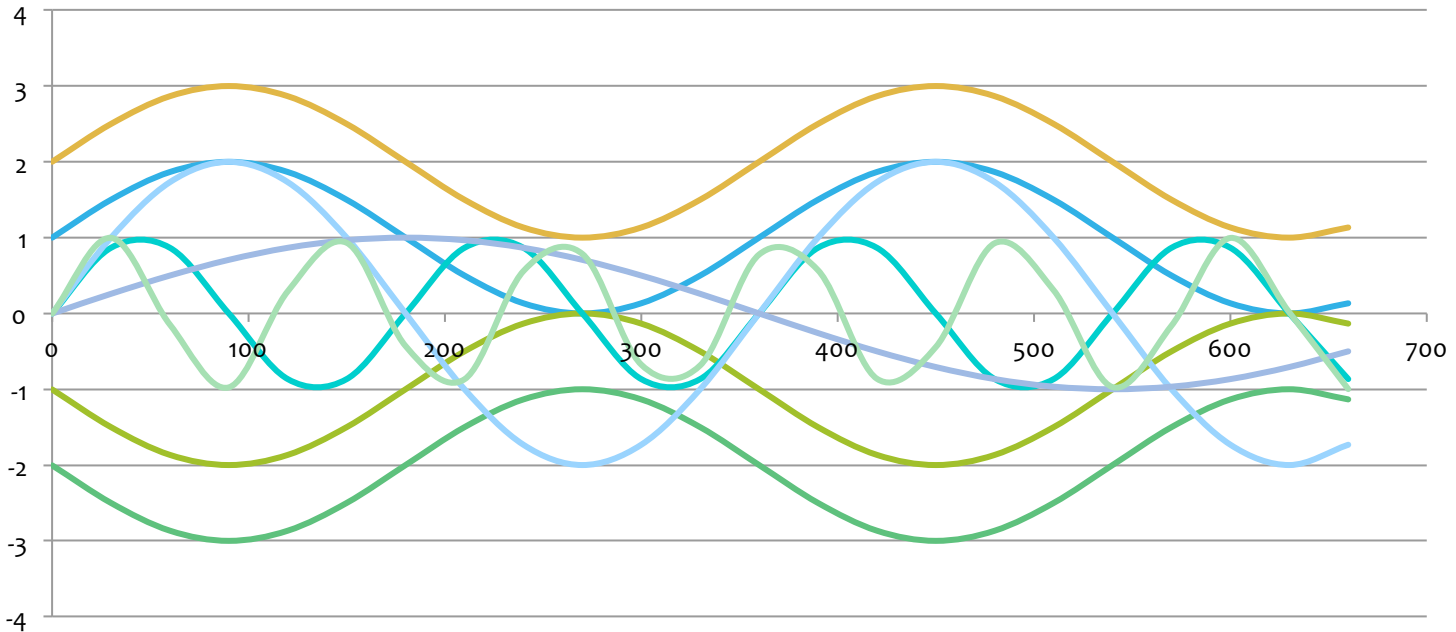
Brix, unpublished

- * What do we see if we introduce the element of time?
- * Do we observe a different operational paradigm?
- * Key ingredients:
 - * adaptive
 - * flexible
 - * integrative
 - * inter/trans-disciplinary (broad sense)

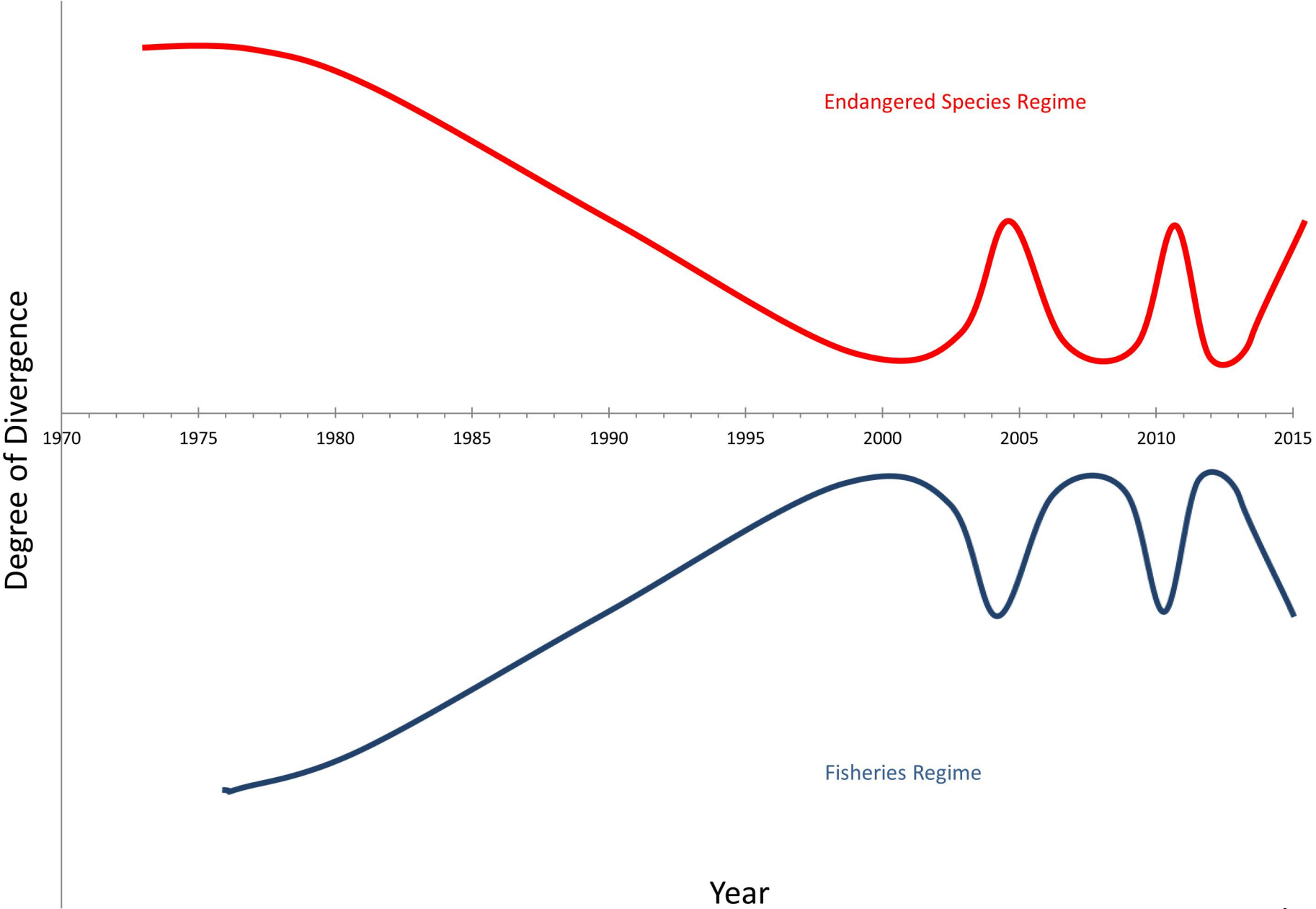
Model of Dynamic Interplay



Complex Dynamic Interplay



Dynamic Interplay



Endangered Species Regime

Fisheries Regime

Brix

Dynamic Interplay

- * What does the deliberative application of dynamic interplay yield?
 - * Iterative > Responsive to environmental change (fit)
 - * Progressive
 - * Emergent outputs – accommodates nuance, complexity
 - * A collection of expertise may be best ‘fit’ in complex adaptive systems
 - * Accepts existing governance structures – i.e. functional shift rather than structural change
 - * Dynamic tension of top-down and bottom-up
 - * Adaptive, fluid, integrates depth of expertise and knowledge bases

So what does this mean?

- * We are managing in complex environmental systems
 - * The world of policy development and institutions needs a paradigm that matches this complexity
- * Achieve a better FIT to the environment that these regimes serve
 - * Collective interaction is vital to achieve sustainability in complex adaptive systems
- * >>>> --- Development of functional networks
 - * rely on the depth of expertise of independent entities and the forum and function of convergence

Dynamic Interplay: Is it new?

- * Multi-layered engagement – (parity)
 - * Emergent process
 - * => sustainable solutions
- * Operational – yes, and....
- * Governance mechanism i.e. ‘integrative’ management
 - * Functional mechanism for decision-making



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Thank you

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