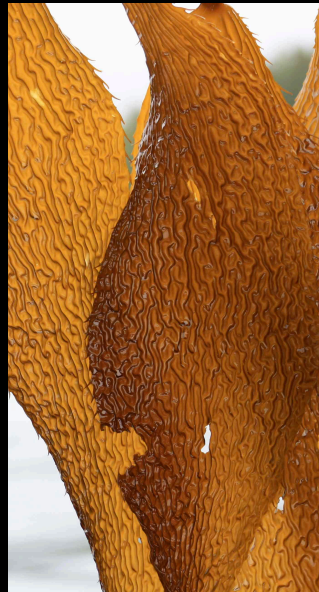


Not Impossible:

Integrating Ecological Considerations and Cultural Values
into Decision-Making



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LEOPOLD LEADERSHIP PROGRAM
Stanford Woods Institute for the Environment



PICES. Oct 15, 2013

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Acknowledgements

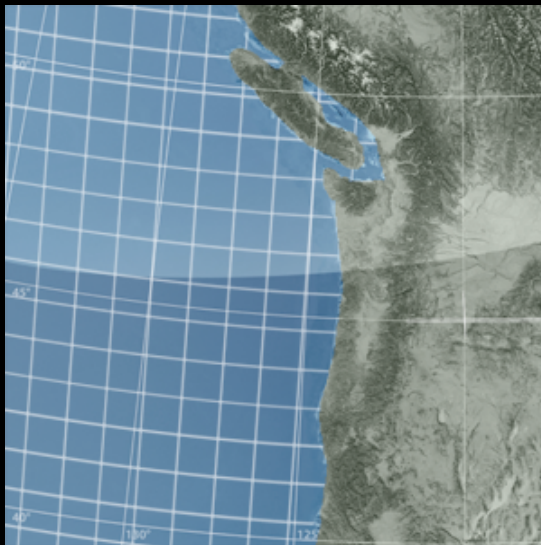


1. NCEAS Cultural ES group: Anne Guerry*, Patty Balvanera*, Xavier Basurto, Ann Bostrom, Greg Bratman, Ratana Chuenpagdee, Gretchen Daily, Rachelle Gould, Ben Halpern, Neil Hannahs, Sarah Klain*, Jordan Levine, Bryan Norton, Mary Ruckelshaus, Roly Russell, Terre Satterfield*, Debra Satz, Jordan Tam
2. CHAN'S lab, Josh Goldstein

CHAN'S = Connecting Human and Natural Systems



Ecosystem-Based Management, Spatial Planning



Ecosystem Services (ES) Categories

1. Provisioning



2. Regulating



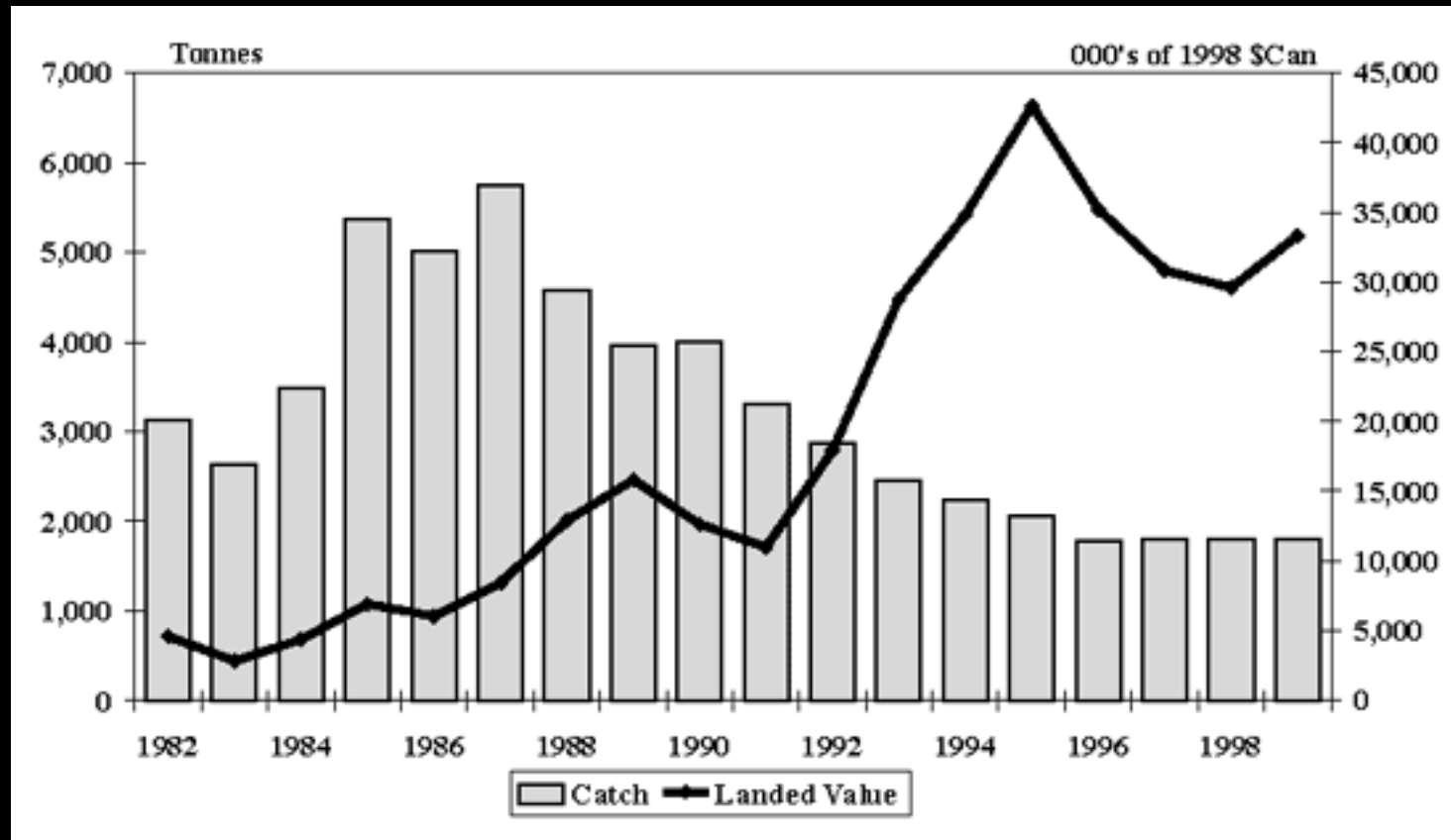
3. Supporting



4. Cultural



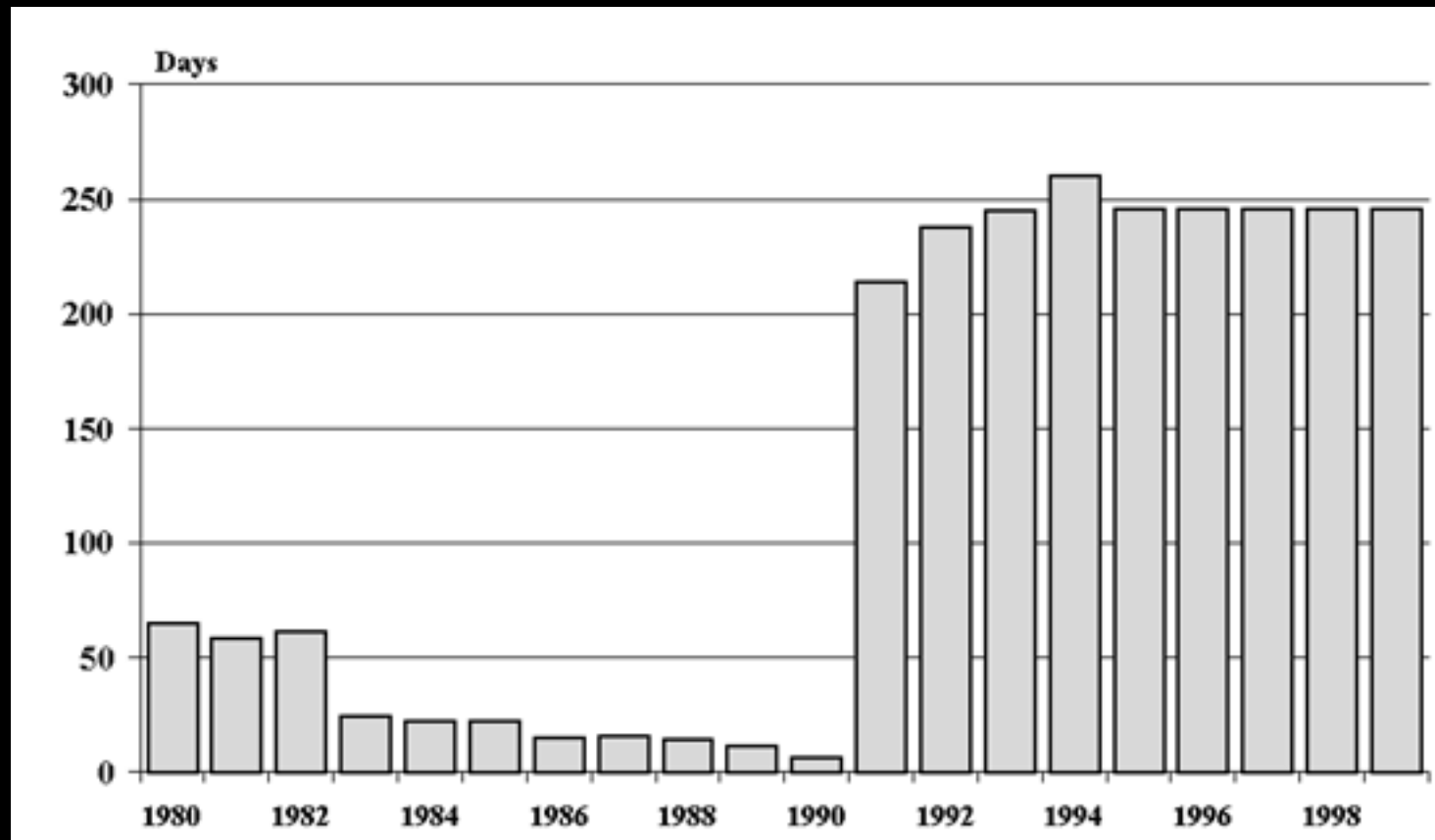
ES in Fishery Management



Canadian halibut fishery, IVQs introduced 1991

ES in Fishery Management

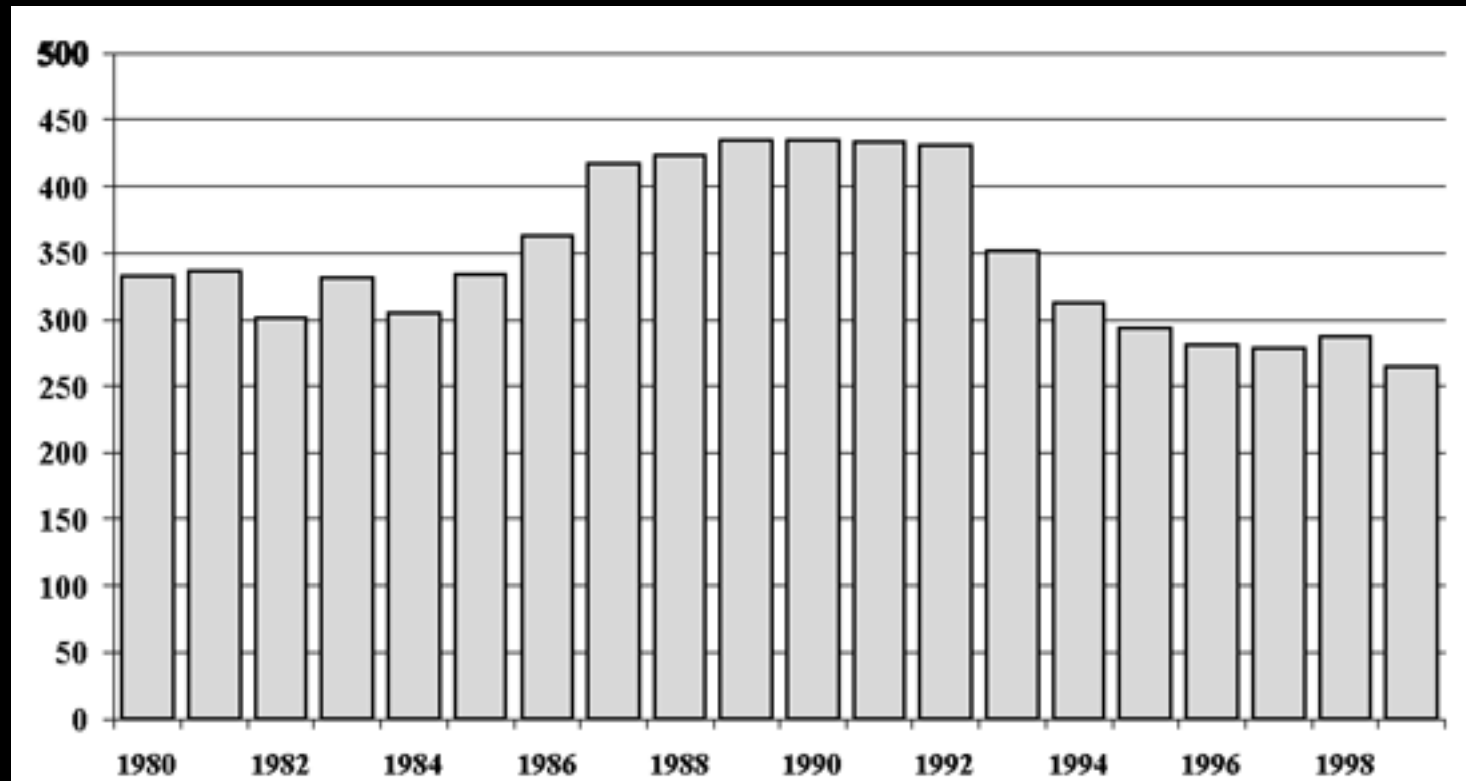
Season length



Canadian halibut fishery, IVQs introduced 1991

ES in Fishery Management

Number of active vessels

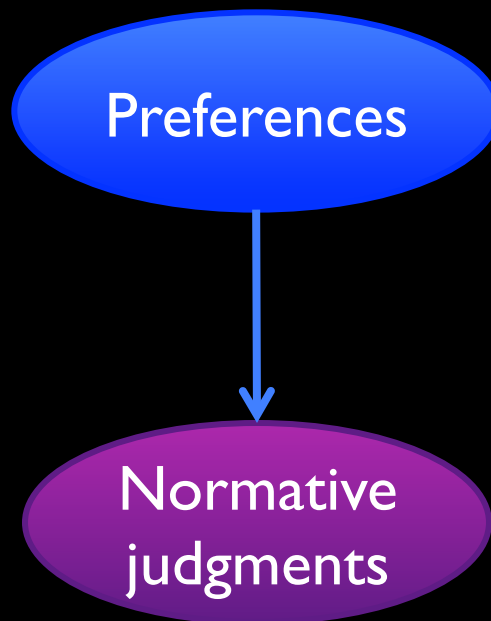


Obvious success, eh?

Prevailing ES Assumptions

- We can identify what matters *a priori*
- Cultural and provisioning ES are independent
- Values are commensurate
- ES change is a function of ecological change

Economic Valuation, Logic



e.g., willingness to pay

Economic Valuation, Critiqued



“Citizen preference”

“Consumer preference”

Principles

Preferences

e.g., strong sustainability

e.g., no new taxes

Normative
judgments

e.g., willingness to pay

Prevailing ES Assumptions

- We can identify what matters *a priori*
- Cultural and provisioning ES are independent
- ~~Values are commensurate~~
- ES change is a function of ecological change

ES = E\$?



Are we trading a walk-on part in a war for a lead role in a cage?

Aren't Intangibles Included Already?

They are, through politics, favouring the strong

Harper backs off from initiative that threatens opposition to B.C. pipeline

BY PETER O'NEIL, VANCOUVER SUN SEPTEMBER 8, 2011



The outline of a traditional West Coast native's headdress, from a member opposing the Northern Gateway pipeline, casts a shadow on Enbridge chief executive Pat Daniel's presentation during a meeting earlier this year.

Photograph by: Stuart Gradon, Calgary Herald

Vancouver Sun

Implication?

ES—rightly looked to for guidance re: ecological values—
is poorly equipped to account for socio-cultural values

Purpose & Audience

- Inform EBM, MSP, PES, ICDPs—& other T&FLAs
 - Help *decision-makers* see the potential for ES research
 - Empower *practitioners & stakeholders* to communicate
 - Clarify for *researchers* how ES research can inform practice

Cultural ES



Cultural ES (MA): “the non-material benefits people obtain from ecosystems ...”

4. Cultural



Everywhere and nowhere

Intangibles Can Be *Everything*

Culture is to humans as water is to fish.

– Kitayama 2002, paraphrased

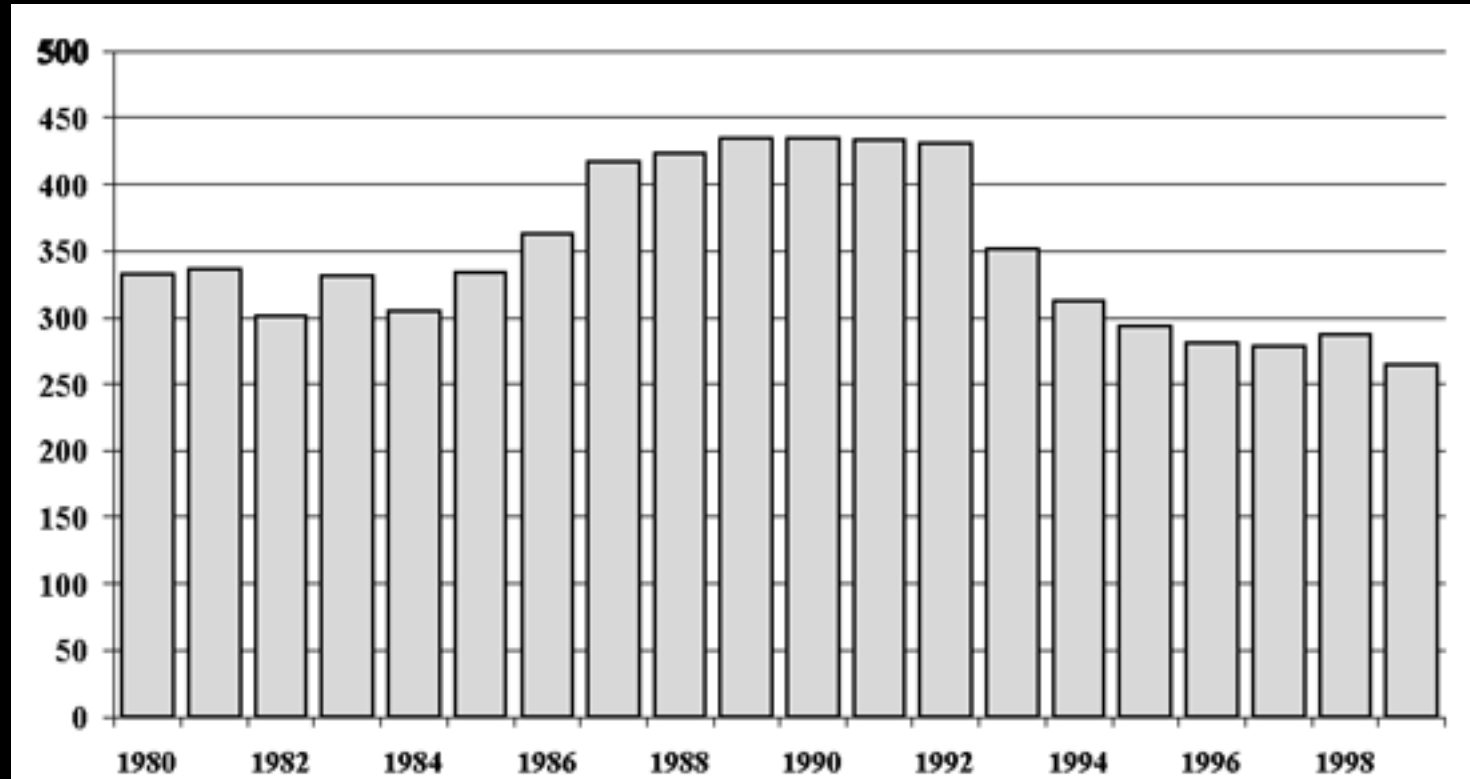
“[Intangibles are] where we really get at well-being”

– Neil Hannahs

→ *Ignoring cultural values can produce dire results*

Get Real, Revisited

Number of active vessels



Flip side: employment, ownership, empowerment, subsistence catch for fishers & communities, etc.

Prevailing ES Assumptions

- We can identify what matters *a priori*
- ~~Cultural and provisioning ES are independent~~
- ~~Values are commensurate~~
- ~~ES change is a function of ecological change~~

Method

1. Informed by our experiences & other work:
 - a. consider core challenges,
 - b. strategies to meet them, and
 - c. steps to employ strategies
2. Design methods for ES value elicitation
3. Pilot some of the methods
4. Reconsider framework

Framework Flow

Consent

Obtain and maintain consent to engage

Framework Flow

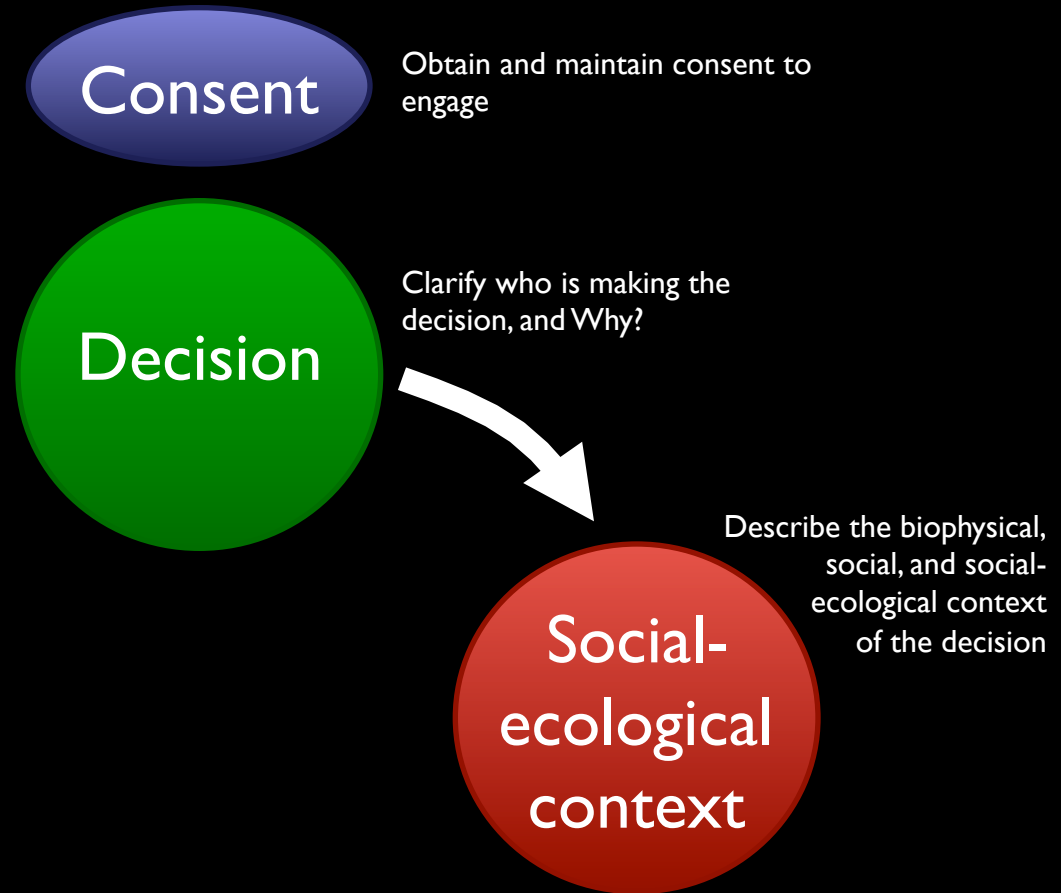
Consent

Obtain and maintain consent to engage

Decision

Clarify who is making the decision, and Why?

Framework Flow



Strategies

Characteristics

Multiple causality

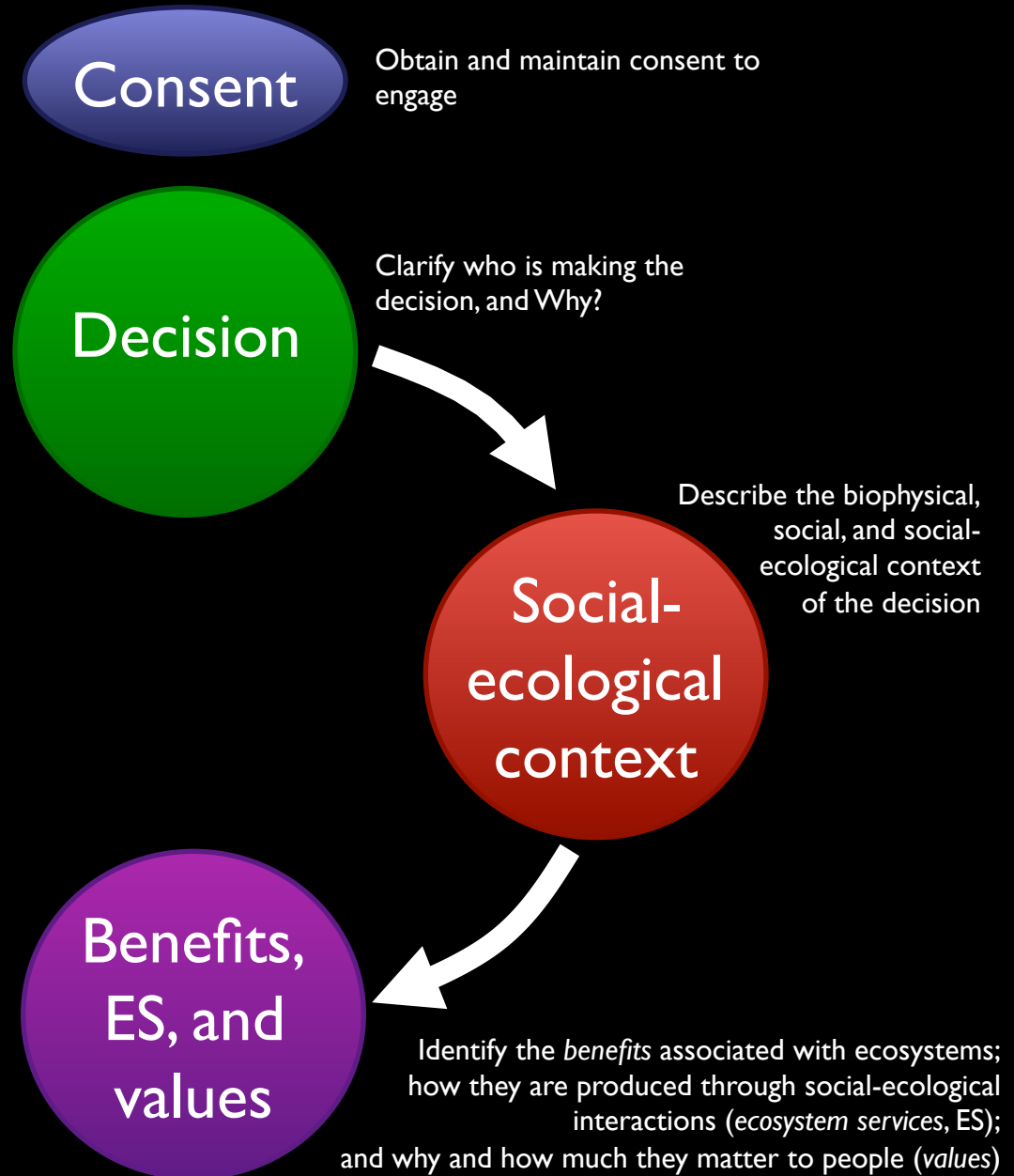
Interdependence

Strategies for Addressing Challenges

Characterize social, biophysical, and SES contexts

Employ (i) open-ended or semi-structured interviews;
(ii) conceptual diagrams; (iii) valuation of 'bundles'

Framework Flow



ES Research Status Quo

- Is reductionist: assumes that ES can be disaggregated
 - Sees ES bundles as sets of ES that co-occur in space
 - Assumes that priority ES can be identified *a priori*
- *But what if ES are critical but invisible and inseparable in people's minds? E.g., black bass*

Prevailing ES Assumptions

- ~~We can identify what matters a priori~~
- ~~Cultural and provisioning ES are independent~~
- ~~Values are commensurate~~
- ~~ES change is a function of ecological change~~

Pilot Methods for ES/Value Identification

e.g., *Place/Heritage Value: I'd like to talk with you now not just about marine ecosystems and how we use them, but also about some possible kinds of meaning or importance that might exist over and above uses that are economic or about specific resources.*

Are there places on the coast that are especially important to you in the sense that they are places where you go to or visit—physically or even in your mind—simply because they are valuable to you? Can you describe why they are important?

Are there places that remind you of past events that are important to you and your community?

Can you give me some flavor of what the experience of that place and/or your attachment to it feels like? Feel free to use stories about your experiences in these places if that helps. These can be things specific to you or your family or community. They can be recent or historical.

Ecosystem Services & Values

children

food

caught

spiritual act

connection to place

like a dance

Other-oriented

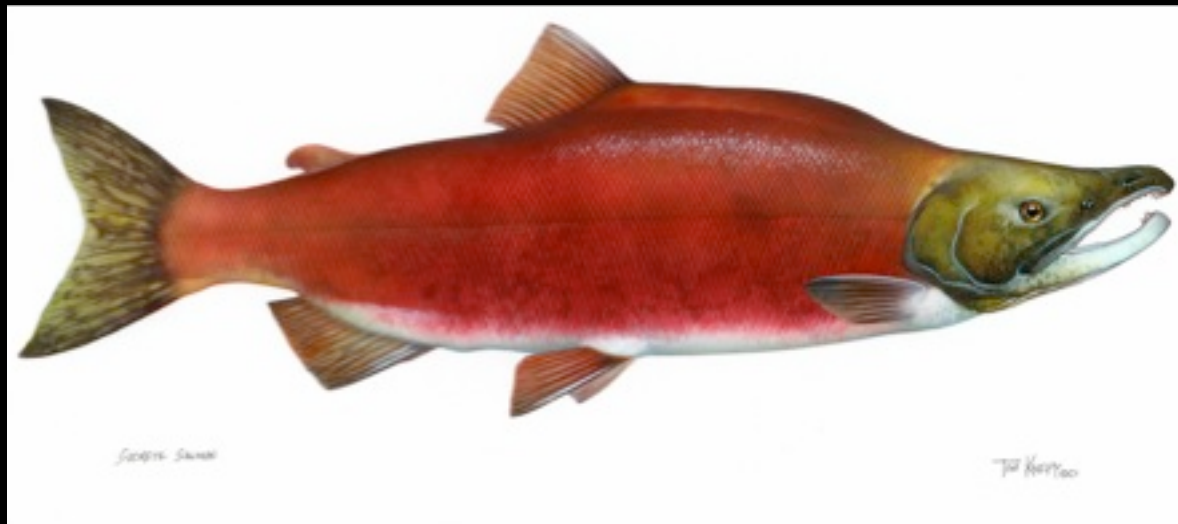
Provisioning, subsistence, material

Outdoor recreation, activity

Spiritual

Sense of place

Artistic, aesthetic



Prevailing ES Assumptions

- ~~We can identify what matters *a priori*~~
- ~~Cultural and provisioning ES are independent~~
- ~~Values are commensurate~~
- ~~ES change is a function of ecological change~~

Strategies

Characteristics

Strategies for Addressing Challenges

Multiple causality

Characterize social, biophysical, and SES contexts

Interdependence

Employ (i) open-ended or semi-structured interviews; (ii) conceptual diagrams; (iii) valuation of 'bundles'

Values re: distribution

(i) Include stakeholders at various stages; (ii) perform scenario-based valuation; (iii) match valuation to values

Plural values

Employ a diversity of valuation approaches including influence diagrams, stories, visual and verbal summaries

Incommensurate values

Employ deliberative approaches to determine tradeoffs

Collective values

Include group valuation and deliberative DM forums

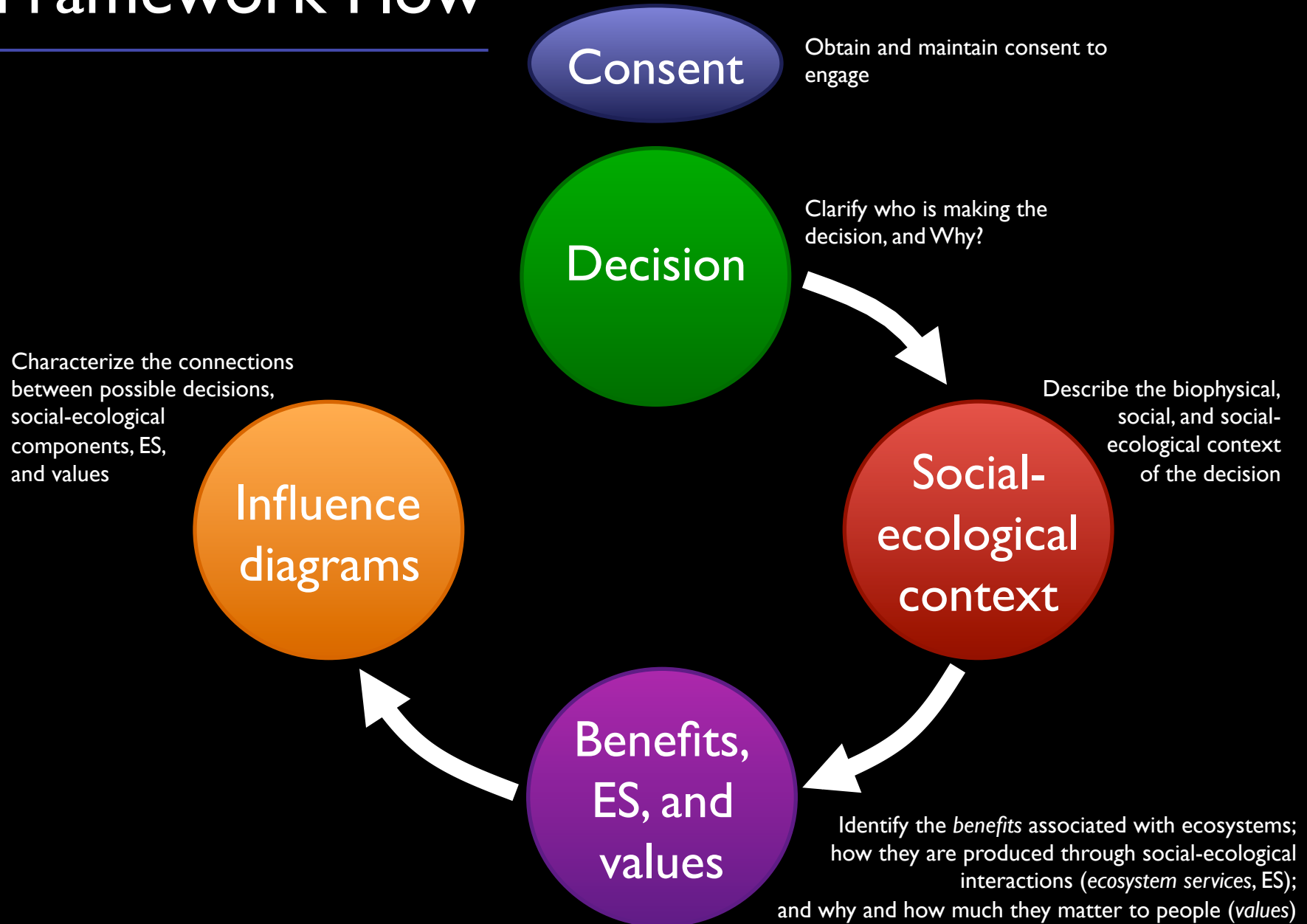
Embedded in ~worldview

(i) Avoid capitalist metaphors; (ii) ask people about benefits, not ecosystem processes

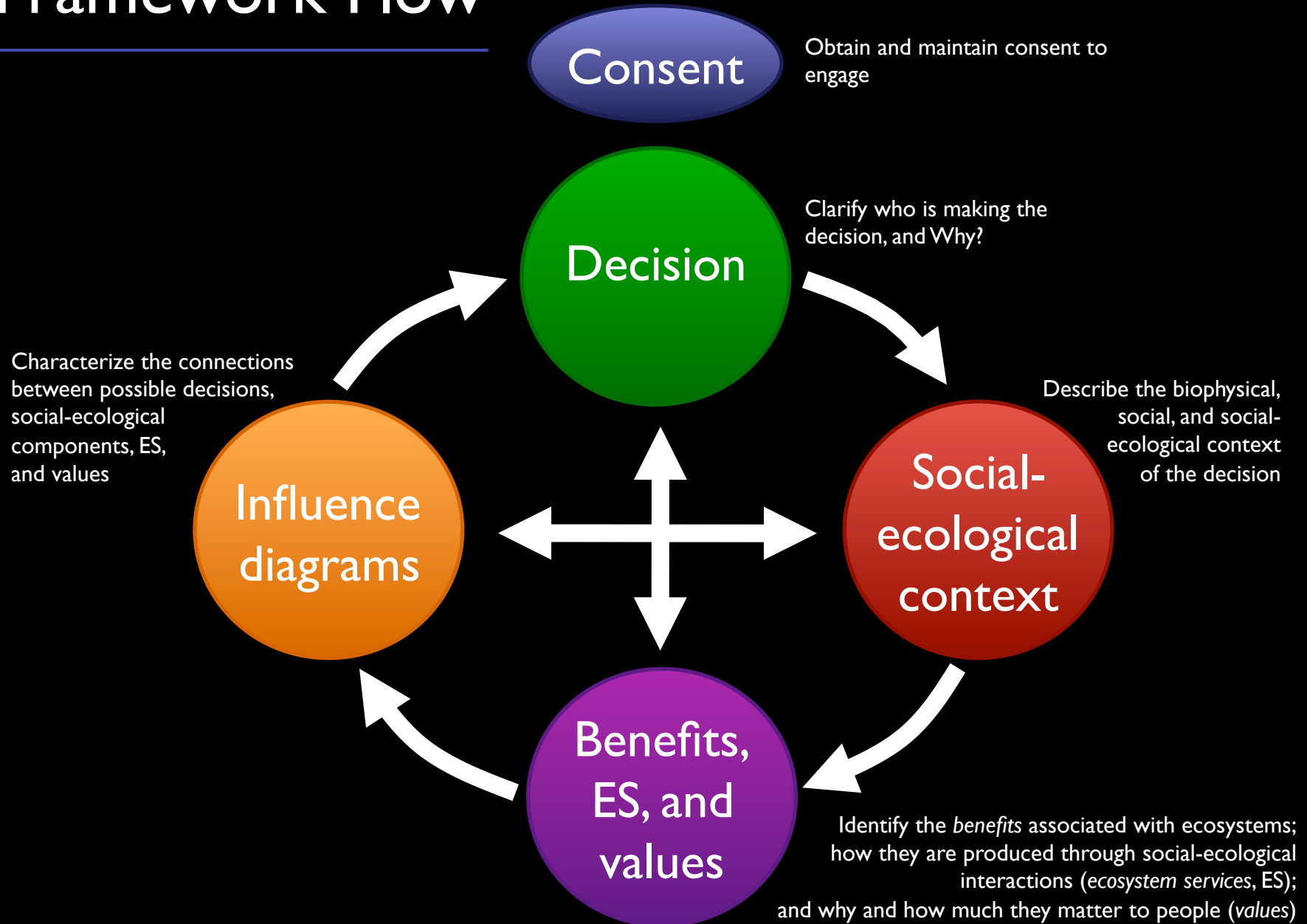
Values defy \$ valuation

Apply non-monetary valuation and DM forums

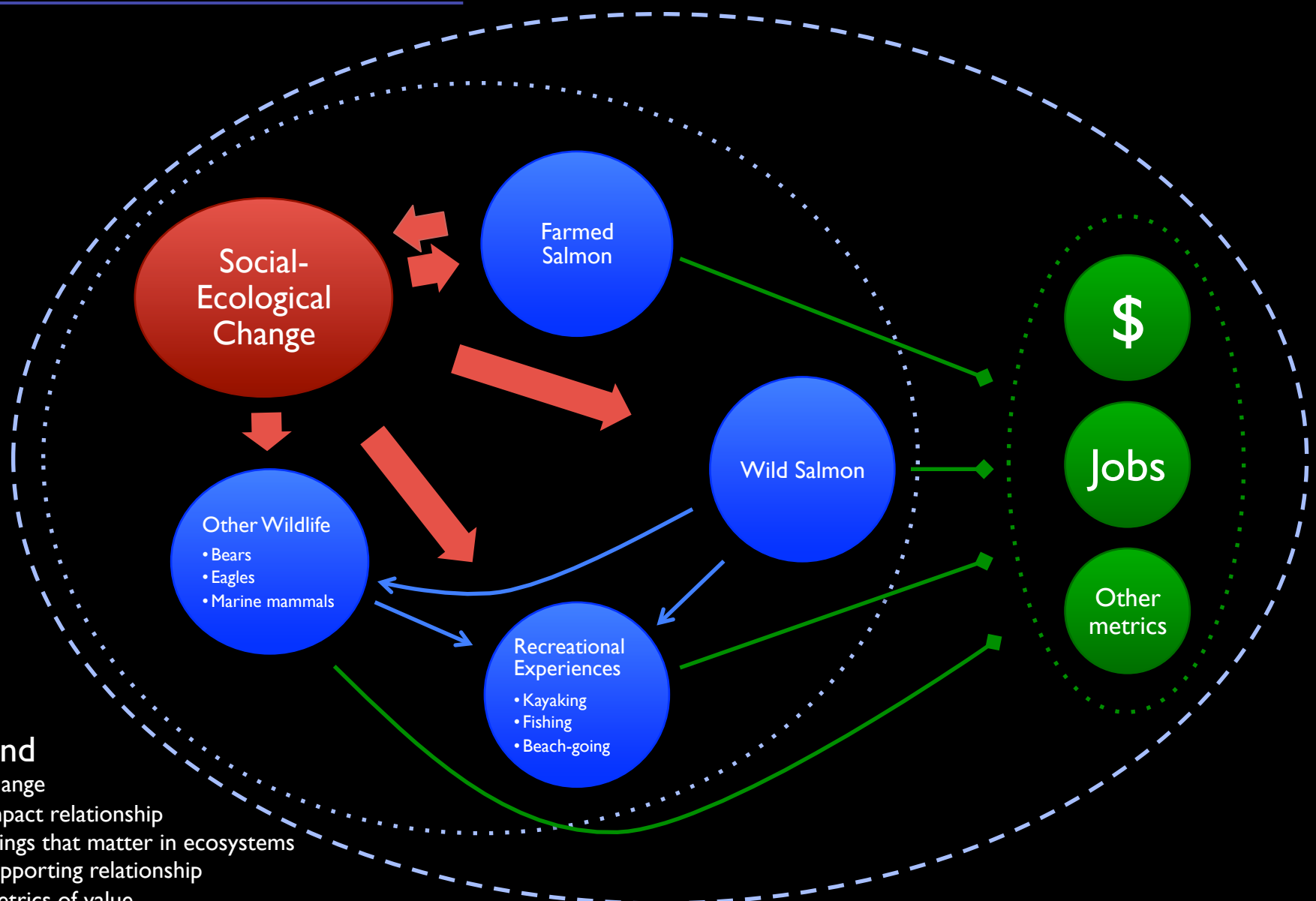
Framework Flow



Framework Flow



Conceptual Map



Legend

- change
- ➔ impact relationship
- things that matter in ecosystems
- ➔ supporting relationship
- metrics of value
- ➔ valuation process

Discussion

- All four prevailing assumptions are false
- Intangibles often drive success or failure of management
- Framework to improve research for DM, in 5 ways
- When resources for research are limited ...
- Key conditions:
 - Engaged interdisciplinary research team, application-oriented
 - Decision-makers/practitioners with resources for partnerships, long-term planning/campaign horizon, insulation from political pressures
 - Research/practice collaboration
- Budding e.g.: Vancouver Island, Puget Sound, Hawai'i
- Not easy, but not a quagmire

Conclusions

- Appropriate valuation requires diverse metrics
- ... may mean participatory DM
- Ecologists' role is to assess changes in endpoints
- Let's ensure they can't say they didn't know
- Can ES research improve DM? Absolutely! With ...



Questions?

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