Role of (biodiversity) offsets and their ability to work well

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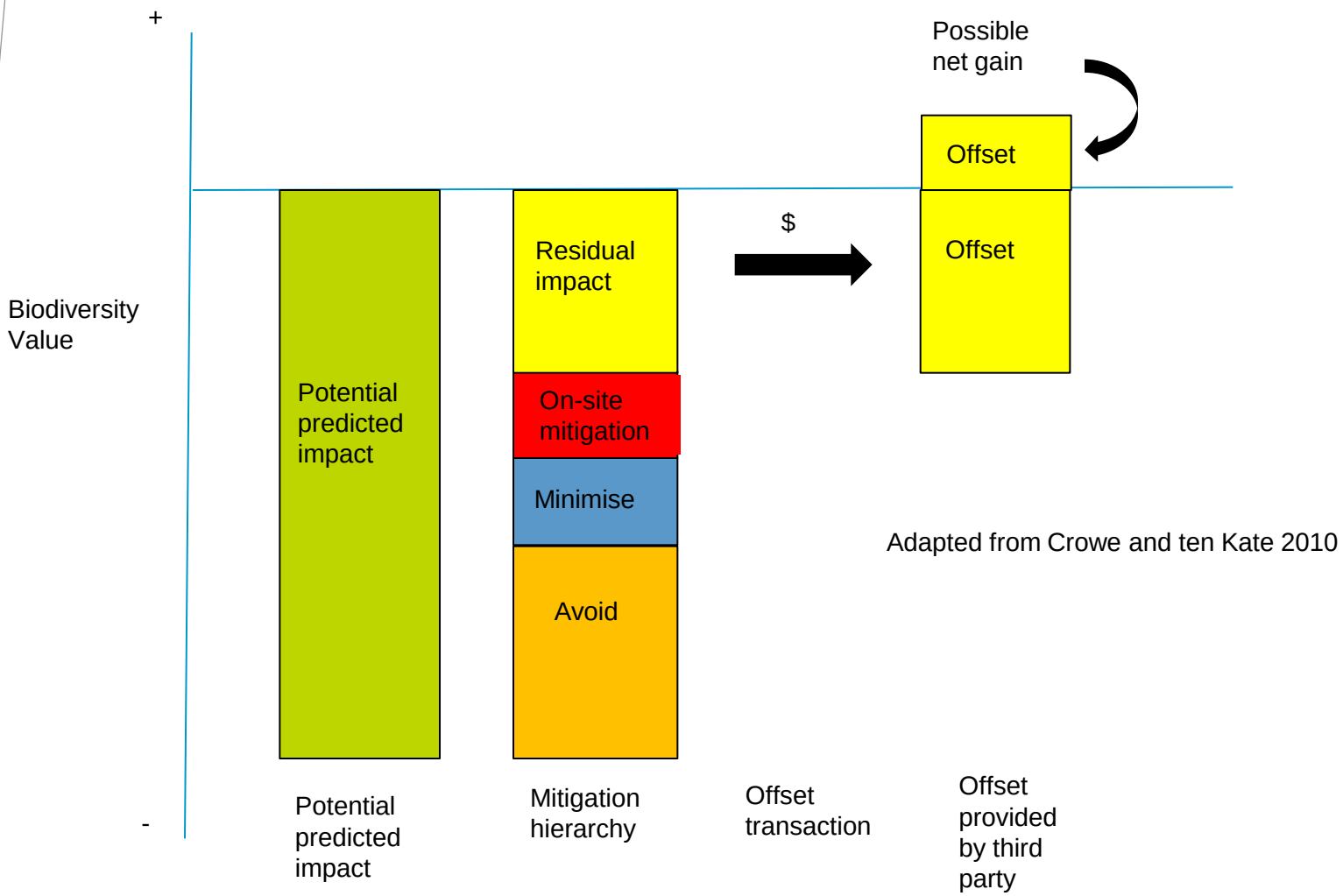
What is an offset?

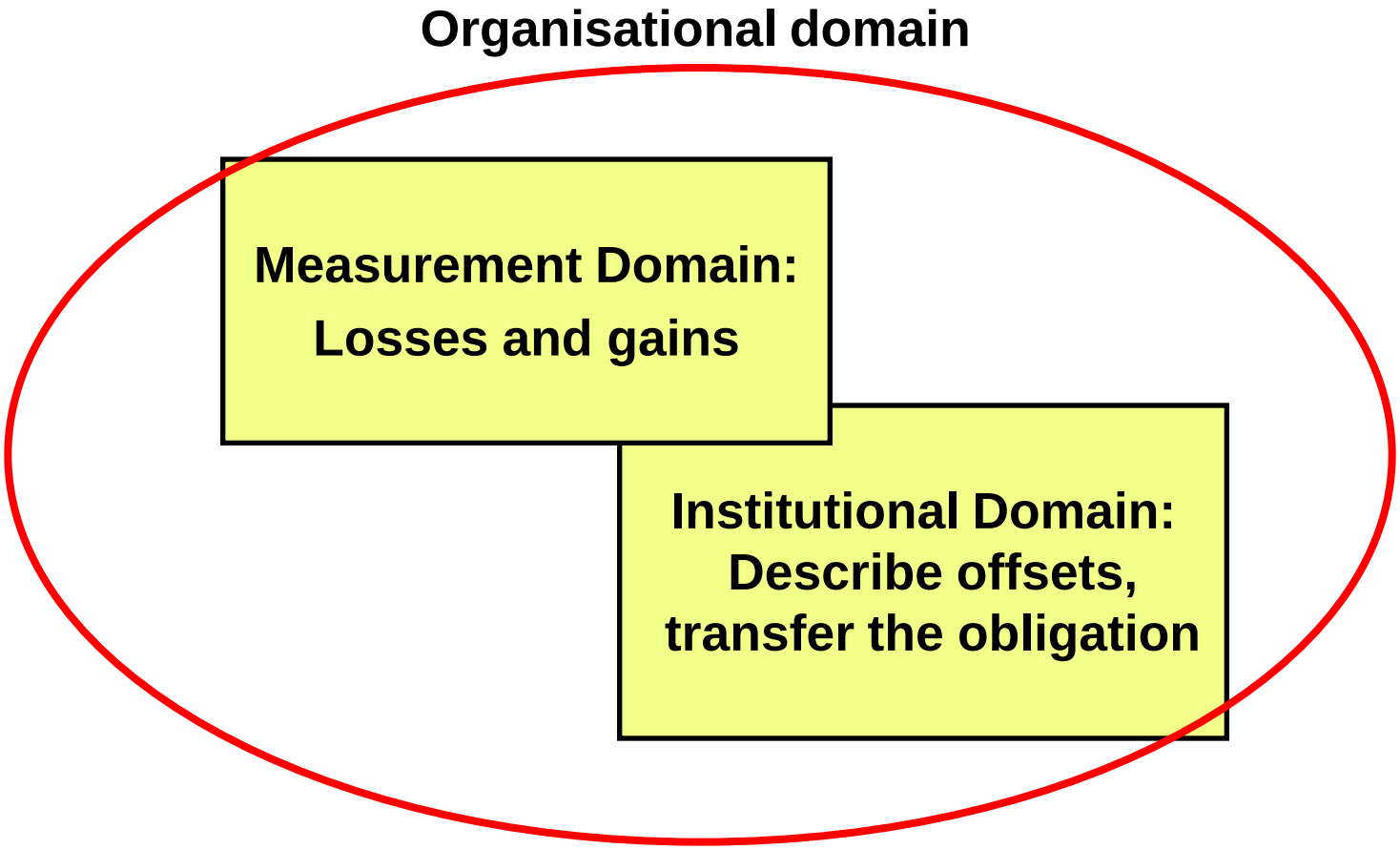


Adapted from Crowe and ten Kate 2010

Focus: Ability to work well

- ‘Working well’ means:
  - Achieving a good ecological outcome (no net loss or a net gain)
  - At least cost (including transaction costs)
- How is this achieved?:
  - Good policy design (and what does policy design mean for transaction costs for government, developers and offset providers)

What makes good policy design?



Measurement Domain

- Measure what is impacted and what is offered
- How do you do this:

  A: What is equivalence: Quantity or quality?

  B: How do you measure what you are getting from the offset site?

  C: How do you translate the measures into requirements ?

  D: What is the value of location?

  E: What is the importance of time?

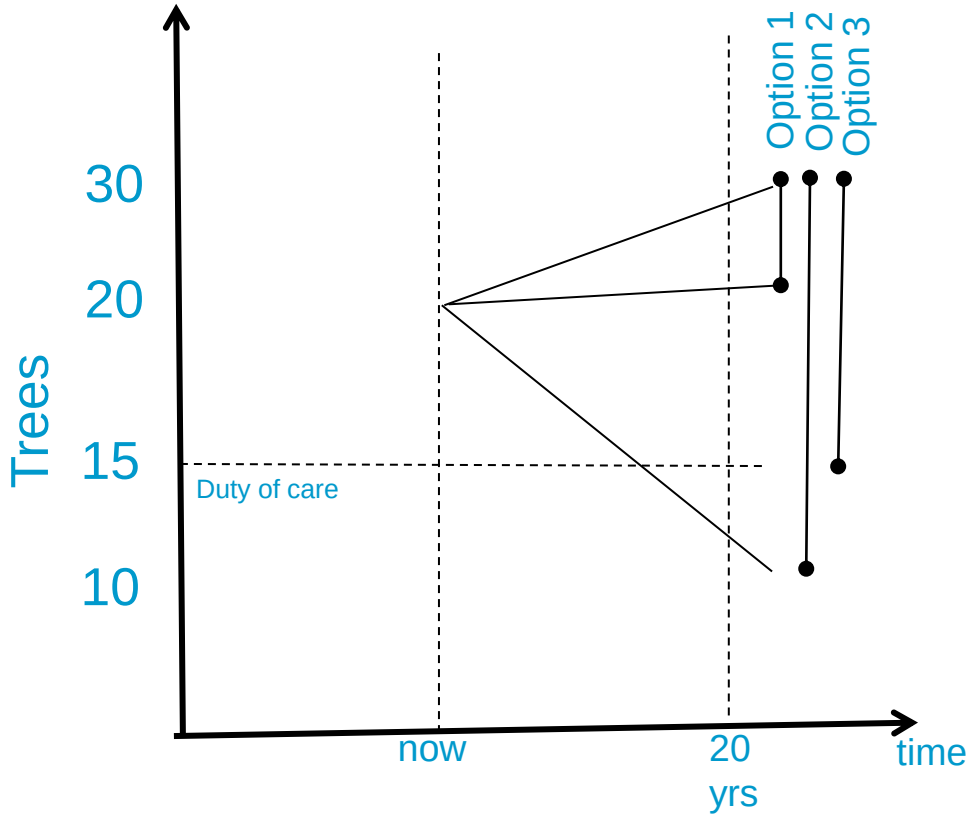
  F: How do you account for risk?

A: What is equivalence?

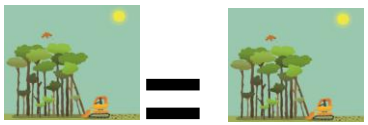
- The offset site should be equivalent or better than what is impacted
- What is equivalent?
  - Quantity versus quality
- Measuring area is cheaper but wont give equivalent value
  - Early wetland offsetting demonstrates quality trade off when use area as the measure (lost half the function)

B: How do you measure what you are getting from the offset site?

- Gain from best practice at some point in the future (1)?
- Gain from current practice at some point in the future (2)
- Gain from min duty of care at some point in the future (3)
- Referred to as addionality



C: How do you translate the measures to guide what can be used as an offset?



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or

or

May be the potential to 'trade up' but within limits

•The more you can use as equivalent the greater the supply (but the more complex the measurement and rules)

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D: Location location

- Value also depends on:
  - Location of impact site with the supply site (relativity) and
  - Location of supply sites with other supply sites (complementarity)
- Is closer to the impact site better?
- Are there other factors that generate value?
  - Access by population who value the site
  - Edge effects

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E: Time

- Earlier outcomes preferred over later ones
- Time lags will affect the ability for the offset to mitigate the impact (takes time to achieve full function)
  - Wetlands can take up to 80 years to achieve full function even if offset activities occur straight away (BenDor 2009)
  - Tree hollows can take up to 120 years to establish (Gibbons and Lindenmayer 2007)
  - Conserve current rather than revegetate (Gibbons and Lindenmayer 2007)
- Longer lag times could be matched with greater trading up requirements

F: Risk

- There is uncertainty associated with the ability of a management change to actually offset the impact because of transaction risk (it is not done) and performance risk (it does not work)
- Need to be able to measure if the offset is performing (performance risk)
- Transaction risk dealt with in organisational domain

Things to note

- Measurement can be very complex and incur large time and resource costs
- Don't always need all the bells and whistles
- Consider:
  - What is being offset
  - Potential number of offset transactions
  - Ability to review and revise metrics

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Some examples of different measures

Strict like for like (local – reveg or similar)	Habitat A (damage site) ≡ Habitat B (offset)	BioBanking (NSW Veg)
Quality adjusted like for like (local – condition/security)	$H_A = H_B$ (quality/security adjusted)	BushBroker
Functional equivalence (Can include indirect offsets)	$H_A = H_B = f(X_1, X_2, X_3, \ldots, X_n)$	Wetland mitigation banking (US)
At least – metric based (simplifies measure and method where few trades likely)	$H_A > H_B$	NSW Native vegetation offsets
At least – expert opinion based (offset is greater than damage)	Evaluation panel opinion is that $H_A > H_B$	EPBC Act and most regional offsets

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Institutional Domain

A: Defined ***legally binding requirements*** for the obligation to protect the environmental asset (developers and providers)

B: Process to ***link*** developer and provider and ***transfer obligations***

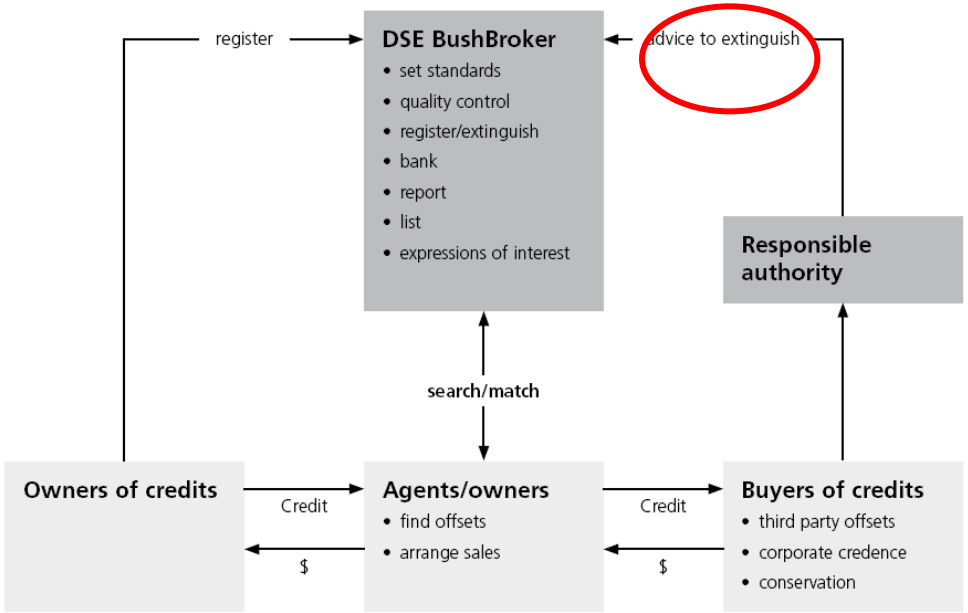
C: A corresponding ***legal and compliance framework*** that protects the transferred obligations

A. Defined legal requirements about obligations

- Measures need to inform rules about developer obligations:
  - Existing obligations to protect and manage biodiversity
  - What must be done on-site (avoid, minimise, on-site mitigation)
  - What mitigation can be offset
  - What the offset should achieve
- Codify into a legally defined obligation which can be passed on
  - This (usually or most commonly) occurs through the development approval process (approval conditions)
- For the offset supplier codify:
  - What constitutes an offset (additionality)
  - How it is to be supplied through time (usually covenant with contractual obligations of management activities)

B. Process to link developer and provider and transfer obligations

- Need a formal legal process for the developer to discharge the obligation (for 3rd party offsets)
- Eg BushBroker:
  - Issue of certificate to say offset obligations for permit approval have been fulfilled
  - This can then be shown to the relevant referral agency
- And a formal legal process that encumbers offset provider



C. Corresponding legal and compliance framework

- Offsets are different to other environmental management processes (duty of care or legislation compliance)
  - Significant implications for biodiversity if transaction or production failure
  - Often need more pro-active management of the offset supply site to ensure additionality
- Therefore need a specific process of compliance and enforcement to support offset market and manage risk (eg ongoing reporting and monitoring)
- Usually responsibility of government (because maintaining the supply of public good)

The Organisational Domain

How do you put it together to manage costs, risks and transparency

A. Manage transaction costs to participants
B. Innovative approaches to enforcement

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A. Manage transaction costs to participants

- Offsets generate transaction costs to the government, developers and providers
- Policy design is critical to the level and distribution of transaction costs
- Transaction costs can be managed/reduced through:
  - Clarity about obligations, expectations and processes for all steps
  - Avoiding repetitious approval and documentation processes
  - Nesting and integrating with other levels of government and process as much as possible
  - Inform and support policy change
  - Clever processes for small offsets - In lieu fees
  - Ways of facilitating information flow:
    - Facilitate brokers
    - Other forms of information assistance (standardised information, database of suppliers, access to regional staff etc)
    - Allowing for banks (can reduce cost and improve outcomes)

B. Innovative approaches to enforcement to manage transaction risks

- Offset enforcement is critical
- Be careful with how enforcement occurs (risk of deterring suppliers)
- Cost effectiveness may be enhanced by employing innovative approaches:
  - Make good opportunities rather then punitive penalties
  - Contingency plans and performance triggers

Which bits do you need to worry about?

- Investment of time and resources now is likely to generate better biodiversity outcomes more cost effectively in the long run
- Things to consider:
  - **DEMAND:** How much? By who? Type of impacts? Capacity?
  - **SUPPLY:** From where? By who? Capacity?
  - **COMPLEXITY**: Are the trades likely to be highly heterogeneous across time and space?
  - **GOVT CAPACITY**: Legislative needs, previous policies, capacity
  - **OTHER PLAYERS**: Brokers, service providers, finance

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Some take home messages

- Offsets occur after actions of avoid, minimise and mitigate
- They can enable impact mitigation at least cost
- BUT design is critical - poor design can result in not delivering the required biodiversity outcomes at high economic cost!
- For policy makers: Consider the purpose of the offset and the market participants when designing an offset scheme
- For developers and provider: consider the different ways of using offsets and the corresponding production and transaction cost

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