

A Shift Towards Landscape-Scale Approaches in Offsets?

Suitable Mechanisms and Open Questions

November 14, 2017 | Marie Grimm

Landscape-Scale Approaches in Mitigation

Project-by-Project Mitigation

Landscape-Scale Mitigation

Box 13: Landscape level planning and the BBOP PRINCIPLES ON BIODIVERSITY OFFSETS

The BBOP Principles recognise the importance of landscape level planning for the design and implementation of biodiversity offsets. Whether conducted to guide conservation, sustainable land

83440

Federal Register /

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS-HQ-ES-2015-0126;
FXHC11220900000-156-FF09E33000]

U.S. Fish and Wildlife Service Mitigation Policy

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Notice of final policy.

95316

Federal Register /

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS-HQ-ES-2015-0165;
FXES11140900000-
178nmdash;FF09E33000]

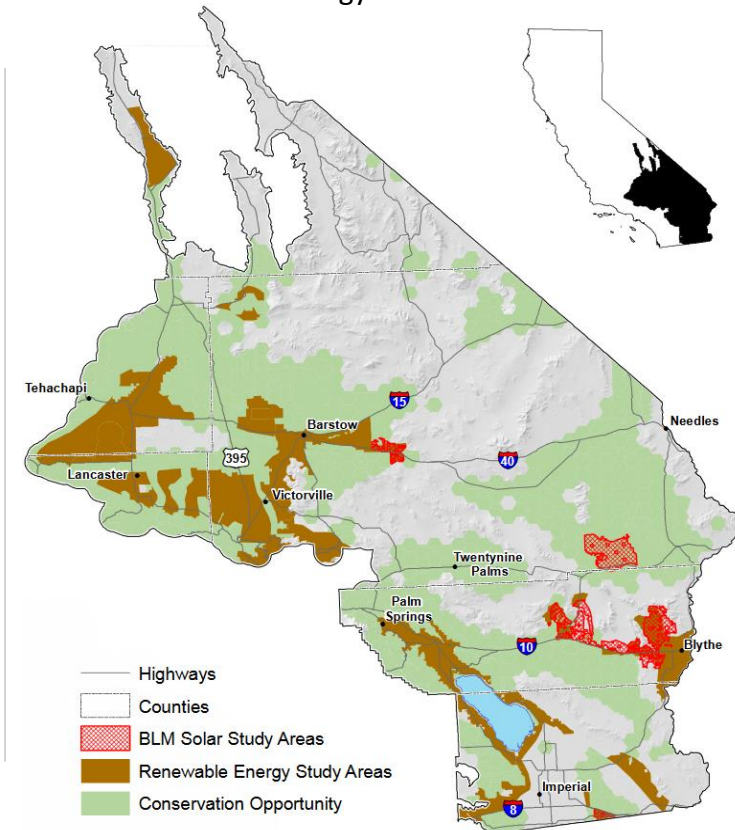
Endangered and Threatened Wildlife and Plants; Endangered Species Act Compensatory Mitigation Policy

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Notice of final policy.

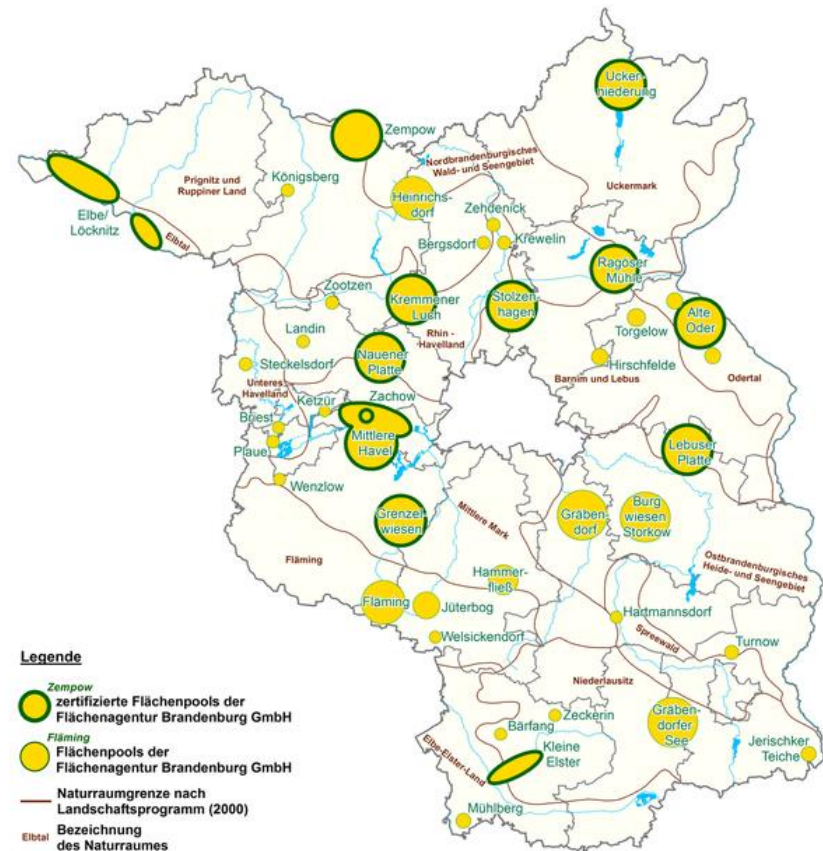
- Blending landscape-level conservation planning with the application of the mitigation hierarchy

Desert Renewable Energy Conservation Plan



Compensation Planning under the German Impact Mitigation Regulation

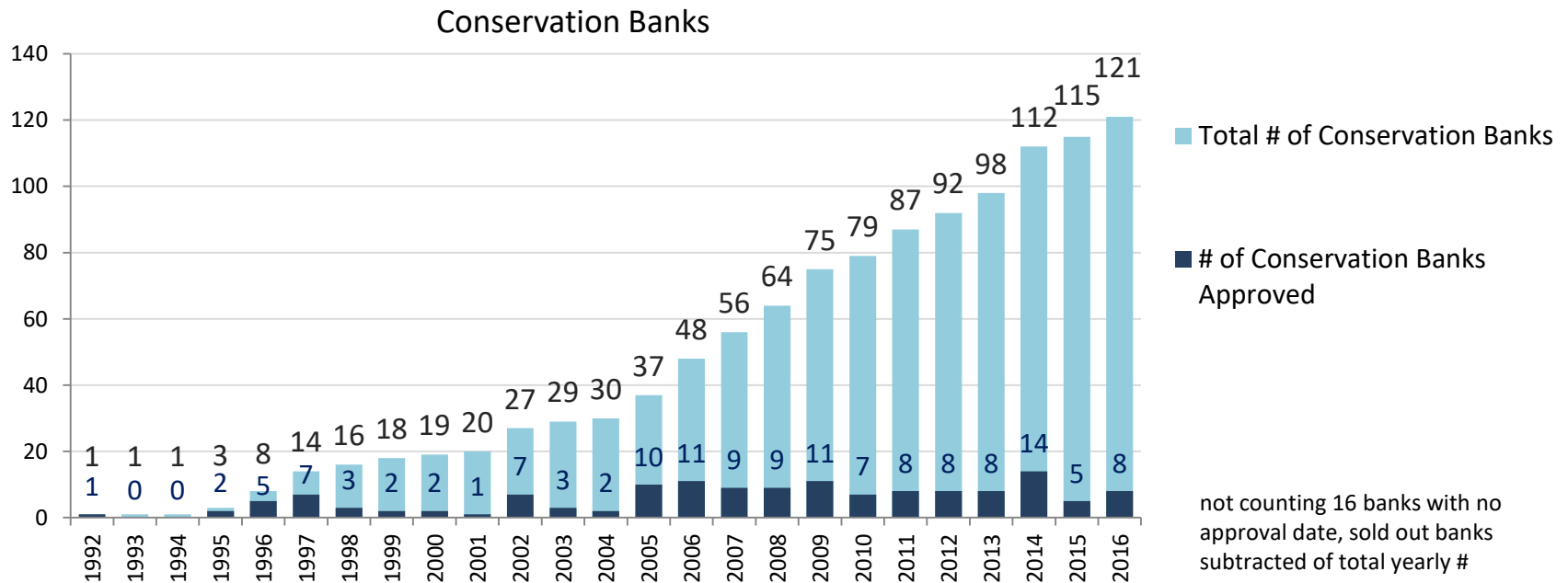
- Focus on the ecosystem and the visual landscape
- Public agencies provide pools of measures or areas for compensation ('Flächen-/ Maßnahmenpools'):
i.e. 'Flächenagentur Brandenburg'



Market-Based Compensation Mechanisms

Market-Based Mechanisms

- Conservation Banks
- In-Lieu Fees



Research Questions, Outline and Methodology

1. What are requirements for the implementation of landscape-scale compensation?
2. Which market-based compensation mechanisms are theoretically most suitable for the implementation of landscape-scale compensation?
3. Open Questions - What do we need to know to answer these questions for practice?



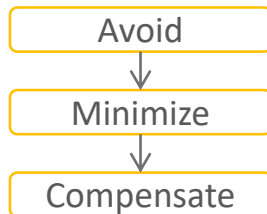
Findings are based on a thorough review of regulations, guidance documents, grey literature and peer-reviewed literature.

General Requirements for Landscape-Scale Compensation



Adherence to the Mitigation Hierarchy

- Utilization of the full mitigation hierarchy



- Which step of the hierarchy should be applied based on the impacted resources?




Regional / Spatial Plans

- Existing large-scale plans and / or conservation objectives

Landscape or Regional Plans
Regional Habitat Conservation Plans
National /Regional Biodiversity Plans
Strategic Env. Assessments

- No plan? An extra step can be taken to identify priorities

 Clement et al. 2014; Saenz et al. 2013; Kiesecker et al. 2009; Brownlie & Treweek 2016; Koh et al. 2014; US FWS 2016, 2017; Brownlie et al. 2013, BBOP 2012 a, 2012 b; van Teeffelen et al. 2014

 Brownlie & Treweek 2016; BBOP 2012a; Saenz et al. 2013; Kiesecker et al. 2009, 2010; Koh et al. 2014; US FWS 2016; Trombulak & Baldwin 2010a; DOI 600 DM 6D; Clement et al. 2014; Tallis et al. (2016)

Instrument-Specific Requirements



Possibility of Strategic Siting

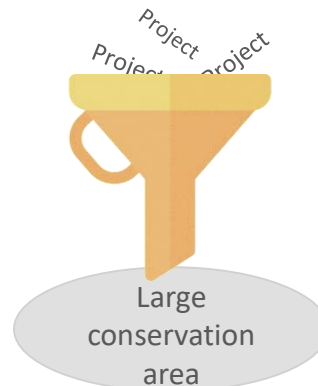
Ability to place compensation sites in high priority conservation areas.

- Spatial relation of impact site to compensation site:
- Possibility of off-site / out-of-kind compensation?



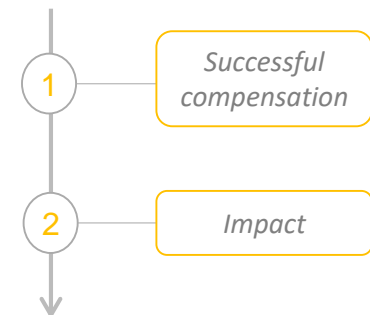
Consolidation of Mitigation


Ability to consolidate compensation requirements from multiple projects.





Advance Mitigation

Ability to provide compensation and prove success before the impact occurs.



 Brownlie & Treweek 2016, Brownlie & Botha 2009; BBOP 2012a; Tallis et al. 2016; van Teeffelen et al. 2014; Kreitler et al. 2015; Bull et al. 2015; Kiesecker et al. 2010; Kennedy et al. 2016; CDFW 2014

 Kennedy et al. 2016; CDFW 2014; Saenz et al. 2013; Tallis et al. 2016; US FWS 2016

 Brownlie et al. 2013; RAMP California 2012; Tallis et al. 2016; Sciara and Stryjewski 2015; Sciara et al. 2017; CDFW 2017; US FWS 2016

Institutional Requirements for Landscape-Scale Compensation



Overseeing Agency & Centralized Reporting

- **Institutional framework** to define responsibilities and requirements.
- **Oversight** to permit impacts, approve compensation and monitor outcomes.
- **Reporting** to provide accountability, transparency, and comparability and analysis of data.



Cooperation

- Stakeholder involvement to include all relevant priorities.

Various Public Agencies
Conservationists
Affected Communities
Tribes
Private Developers

Mechanisms & General Requirements



Adherence to the Mitigation Hierarchy

- Compensation only after 'all appropriate and practicable avoidance and minimization measures have been applied' †
- Departure from the mitigation hierarchy depending on the landscape context to increase effectiveness of mitigation †
- Lack of avoidance in wetland mitigation *
- Actual compliance with the mitigation hierarchy before resorting to compensation is not known



Regional / Spatial Plans

- No extensive regional planning system
- A number of landscape-scale plans can be used
- Regional Habitat Conservation Plans often include banks as part of their conservation strategy ^ϕ
- ILF Programs can have a regional strategy ^ϖ
- Lack of availability of plans and data can pose a problem



Instrument Specific Requirements – Conservation Banks



Possibility of Strategic Siting

- Off-site / in-kind mitigation projects
- 33% of 95 banks adjacent to protected areas and 50% located in areas identified in conservation plans ψ
- 'often located on land that a banker already owns' *



Consolidation of Mitigation

- multiple projects impacts are compensated at the same location ϕ
- 95 banks: 5 to 50,500 acres, 17% larger than 100 acres ψ



Advance Mitigation

- '(...) provides ecological functions and services expressed as credits for specified species or resources, that are later transferred or sold to others (...)’ \dagger
- 'For 40% of banks, credits are released and made available for sale only after bank owners have achieved certain performance standards’ ψ



Instrument Specific Requirements – In-Lieu Fees



Possibility of Strategic Siting

- Off-site / in-kind mitigation projects



Consolidation of Mitigation

- Provides mitigation for multiple permit recipients



Advance Mitigation

- ‘in-lieu fee programs generally provide compensation after impacts have occurred’ ^ψ
- ‘58 of the 87 programs, do not require that the collected funds be spent in a specific time frame’ (*wetland* ILF) *

Mechanisms & Institutional Requirements



Overseeing Agency & Centralized Reporting

- Fish and Wildlife Service and/or National Marine Fisheries Service
- Regional overseeing agencies for some Regional Habitat Conservation Plans



RIBITS








Regulatory In-lieu Fee and Bank Information Tracking System



Cooperation

- ESA requires cooperation of agencies
- ‚Mitigation Review Team’ including other federal, state, tribal, and/or local regulatory and resource agency representatives

Summary of Findings

	GENERAL		INSTRUMENT-SPECIFIC			INSTITUTIONAL	
	 Adherence to the Mitigation Hierarchy	 Regional / Spatial Plans	 Possibility of Strategic Siting	 Consolidation of Mitigation	 Advance Mitigation	 Overseeing Agency & Centr. Reporting	 Cooperation
Conservation Banks	(✓)	(✗)	✓	✓	✓	(✓)	(✓)
In-Lieu Fees	(✓)	(✗)	✓	✓	✗	(✗)	(✓)

there are a number of **associated issues** on biodiversity offsets:

- Uncertainties
- Displacement of effects
- Perpetuity
- Document quality
- Additionality
- Accounting / equivalence
- Time lag / 'habitat borrowing'
- Conservation as offset activity?

cf. van Teeffelen et al. 2014, Fleischer & Fox 2009, Froger et al. 2015, Carreras Gamarra & Toombs 2017 ...

'there is little empirical evidence to suggest that any of these programs have **achieved their policy goals**'

Koh et al. 2014 on offsets

Do these approaches contribute to a net gain / no net loss of affected resources?

'there has been no comprehensive investigation into the **success or failure of banking** from the perspective of endangered species. (...) There is a clear lack of peer-reviewed science that looks at **the ecological performance of conservation banks and their role in the recovery of endangered species.**'

Fleischer & Fox 2009, see also Carreras Gamarra & Toombs 2017; Fox & Nino-Murcia 2005, Madsen et al. 2010, Pawlicek & Sullivan 2011, Gelcich et al 2016, Wolcove & Lee 2004

Open Questions

The ability of landscape-level conservation and offset plans 'to sustain acquisitions in a state that benefits the species of concern and maintains ecological functionality has not yet been studied. Such studies would be an important next step in assessing the **effectiveness of these plans.**'

Underwood 2011

Does landscape-scale mitigation (and offsetting) weaken avoidance as compensation gets easier? Issue of 'offsettability' of impacts.

see Bull et al 2012, Brownlie & Treweek 2016, Clare et al. 2011 on Wetlands

Thank you!

Title:

A Shift Towards Landscape-Scale Approaches in Offsets? Suitable Mechanisms and Open Questions

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Screenshots:

FWS Mitigation Policy:

<https://www.gpo.gov/fdsys/pkg/FR-2016-11-21/pdf/2016-27751.pdf>

FWS Compensatory Mitigation Policy:

<https://www.gpo.gov/fdsys/pkg/FR-2016-12-27/pdf/2016-30929.pdf>

BBOP Offset Principles:

http://www.forest-trends.org/documents/files/doc_3126.pdf

Desert Renewable Energy Conservation Plan:

http://www.drecp.org/maps/Starting_Point_Maps.pdf

Flächenagentur Brandenburg:

<https://www.flaechenagentur.de>

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