

A CIWEM Conference

# Mitigation – Does it Measure Up? Steps to Best Practice

November 20<sup>th</sup>, 2003

School of Oriental and African Studies, London

## Post Conference Notes

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## Mitigation – Does it Measure Up? Steps to best practice November 20<sup>th</sup>, London

### Background

The modern world is faced with major human population and development pressures which are resulting in unprecedented levels of environmental damage. In the face of such pressures it is often hard to reconcile new developments with environmental protection. Yet if sustainable development is to prevail it is necessary to use a range of tools, often in innovative ways, to maintain or enhance current levels of natural capital whilst at the same time acknowledging peoples developmental desires and rights.

Mitigation – *measures aimed at minimising or even cancelling the negative impact of plans and projects during or after their completion* – is being used routinely by developers in order to placate the environmental lobby. It is clear however, that current practice often falls far short of what is promised for example:

- The mitigation promised in the Environmental Statement is inadequate
- The mitigation promised in the Environmental Statement is not delivered at all in the development
- Mitigation is delivered but no monitoring takes place to ensure that it works or achieves what it set out to achieve (or this is done inadequately)
- Regulatory authorities seem confused about who should be ensuring that mitigation processes are delivered; it is unclear whether Environment Action Plans have worked
- There appear to be no clear guidelines which set out what should be done and by whom.

There is, on the one hand, a cynical view that mitigation is merely a device that enables development with little attempt to assess that what was promised was actually delivered. However, it is also evident from a growing number of large scale and expensive mitigation projects that good practice is emerging. There are a range of environmental options open to developers, including mitigation and compensation and there needs to be clear view of how these options interact since the same problems, outlined above, often apply to compensation. This debate is particularly timely given the pending revision to the Policy and Planning Guidance (PPG9) on nature conservation.

### Aim and objectives of the conference

The aim of this conference is to understand the current status of mitigation practice in the UK highlighting both deficiencies and good practice in order to set out action that need to be taken to rectify current shortfalls and promote good practice. The objectives of this conference are:

- To consider the current status [legislative background etc] and effectiveness of mitigation measures in delivering their stated aims.
- Through a number of case studies to consider good practice
- To consider and define a number of clear steps need to be considered improving the delivery of mitigation

Each speaker will be asked to identify 3 or 4 key points that need to be incorporated into routine practice; these will form the basis of the final discussion which will aim to distil these into a set of recommendations from the conference. This important meeting will bring together policy makers, practitioners, developers, regulators and other interested parties to discuss the increasingly employed techniques of environmental mitigation. Experts will share their experience and knowledge of current projects, identify any areas of concern and target ways to take mitigation and compensation forward. The day will also provide ample opportunity for delegates to network.

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**Post conference Delegate Notes**

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# Conclusion and Discussion: Key points

## Introduction

The conference presentations covered two contrasting aspects of the questions surrounding mitigation. The first three papers were largely about the nature, definition and processes surrounding mitigation. The second part of the conference demonstrated five quite different examples of effective EIA and mitigation in practice. The final session of the conference was a discussion which covered key issues raised by the speakers during the first two sessions. The main thrust of the meeting was mitigating ecological damage and much less time was spent either with other aspects of the environmental agenda or social or economic mitigation.

There was a view expressed both in questions and the final discussion that implementing the recommendations of EIA including mitigation had a long history of problems. These problems included the failure of delivery of promised mitigation and other measures, monitoring its delivery and lack of enforcement. The 'old hands' in the audience made it quite clear that this was not a new problem. The best practice presentations concentrated on just that and showed what could and should be done. There is however, still a need to clarify exactly how the EIA and mitigation process is failing.

Various solutions were put forward and a good deal of discussion in the final session was devoted to:

- the role of Environmental Action Plans as a way of making a clearer link between EIA and on-going delivery and
- the growing importance of effective consultation and participation in the EIA process.

A number of people referred to review studies that had investigated and audited the performance of the EIA process. Given that the shortcomings of ecological mitigation are both long standing and well known and that best practice is clear further audits of the EIA process would be helpful to determine whether the process is becoming more effective. The following points were highlighted in meeting and the final discussion.

## Definitions and process

All the first three speakers touched on the question of the definition of mitigation. Duncan Huggett (RSPB) argued that mitigation should not be some bolt on after thought, included after the event but part of a dynamic process which from the outset considered a variety of options. This linked in closely with the view put forward by Jonathan Price of English Nature who are currently promoting a 5 stage process to sustainable environmental management.

## Fundamental Aims

The delivery of **sustainable development** is the overarching purpose of the land use planning system. Mitigation of the adverse environmental impacts of development will have a continuing and increasing role in helping to achieve this. Mitigation must not, however, be viewed as the sole route to sustainable development – rather an element in a sequential approach. Environmental impacts must be fully investigated so that the location of development can be selected to avoid significant adverse effects. Only where adverse effects are unavoidable should mitigation become necessary. Where residual impacts remain after mitigation then these should be compensated for.

It is a **primary and fundamental objective that mitigation should deliver no net loss of biodiversity** when developments are implemented and that some biodiversity 'gains' should be achieved wherever possible. Mitigation should conserve and enhance; respect and protect existing designated sites.

**Current failure** As it is currently practised, neither this objective, nor requirements in so far as statutory obligations are concerned, are being met.

If it is ever to enable serious biodiversity conservation in respect of development, mitigation planning and implementation urgently needs:

- a common understanding of what mitigation is and how this differs from compensation. [language]
- clear, unambiguous guidance [provided by whom?]
- together with effective monitoring of compliance
- together with more effective **enforcement**, [there should be greater clarity about **who** it is manages the mitigation process]
- the use of expert staff to ensure we are adopting current best practice
- better research, and
- publication of case studies,

## Frameworks – linking the stages of development

### Linking EIA to Ongoing Management - The Life Cycle of Environmental Management

A number of related issues were raised both by the papers and in discussion which related to the link between the EIA and development process to what one might term routine management. The following points arose:

- The failure to translate mitigation measures promised in Environmental Assessments into actions
- The life cycle of environmental management – the links between the differing stages of a development – in particular the language and terminology
- The need for a framework to operate
- The developing use of Environmental Management or Action Plans to translate promised mitigations into action

There needs to be a clear view of how mitigation (and other measures) fit within the **life cycle** of a development [from EIA through construction (and mitigation) to developments which may have management systems in place.

#### Life Cycle of development and operational activities

All developments tend to go through the same stages outlined in the link below (line 1). We have an established environmental management terminology for each of these stages (line 2).

#### Fig 1. The life cycle of environmental management and links between stages

1. **Proposals** -> **Assessment** - > **Development** - > **Routine operation** -> **Decommissioning**  
Options Construction

2. - **EIA** - Environmental Impact Assessment

**EMP or EAP** - Environment Management / Action Plan

**EMS** - Environ. Management Systems

3. **SEA** - Strategic Environmental Assessment

The offshore oil industry have been using this framework for over a decade and the number of specific activities, such as monitoring, that can be carried out at any particular stage of the process can be as high as 30. This concept provides a clear link between the stages of the development, the need to recognise the continuity of process over time and the well recognised language used for established practices such as EIA, EMS and now EMP/EAP.

What was clear from the five case studies were that ***all of them involved on-going management*** after the particular development had been completed. A number of the case studies also used the EAP/EMP process.

Having an **environmental liaison officer** [ecological clerk of works] could be useful for larger projects in helping to maintain continuity between assessment, construction and management stages.

Mitigation plans should be a part of the EIA process and be highlighted as early as possible.

### **Environmental Action/Management Plans**

It is now becoming common practice following the completion of the EIA to prepare an Environmental Action\*/Management Plan that summarises all the mitigation measures highlighted by the EIA. The EAP/ EMP clearly set out all the actions and responsibilities of the company and contractors to ensure the minimisation of environmental impacts. There are often varying degrees to which the EMP is formalised so that the parties are made accountable and so that legal action could be taken if necessary. [The Environment Agency use the term Environment Action Plan – **EAP**]

#### *Points that arose in discussion*

- EAPs could provide the basis for setting terms and conditions for legal compliance and thereby help the long standing problem of enforcement
- EAPs could provide the basis for on-going monitoring [by stating the limits of acceptable change.
- One delegate highlighted some recent research which found that only 12% of EIAs had included a EAP/EMP statement

### **Frameworks – documentary; legal and financial**

#### **Funding Issues**

A number of points about the way funding could be used in the context of helping to deliver mitigation were raised; these included:

- For large projects over £50m the **Equator Principles** (see Rob Evans) are providing a framework for banks to manage environmental and social issues in project financing (see [www.equator-principles.com](http://www.equator-principles.com)) that help to ensure compliance with promised mitigation and other measures.
- A concern for lack of funding for monitoring post development, especially on smaller schemes was expressed.
- On larger schemes where there is clear on-going management (and environmental management systems) funding does not appear to be such an issue.
- Could financial commitments be written in to EAP to carry through mitigation measures and subsequent monitoring?
- Financial penalties could be built into agreements as an incentive for developers to deliver mitigation or monitoring and to aid enforcement

- Environment Agency consents and annual fees allows for monitoring – could this be extended to developments and Local Authority planning to cover a number of years after the development has been completed to ensure compliance?
- There seemed to be a widely held view that Local authorities planning departments do not have the resources – staff – to monitor compliance.

### Enforcement

A range of issues were raised by the meeting including

- *Many* delegates highlighted in their feedback the need for better enforcement and from this there is a clear indication of an ongoing problem.
- There seemed to be a clear disparity between *enforcement and process* and how Local Authority controlled developments and Environment Agency consents [EMP process] operate. This leads to confusion about who is supposed to enforce mitigation measures.
- There were many, rather resigned, observations on the lack of enforcement of Local Authority planning conditions
- Should EMP process be a *statutory* requirement of all EIA process?
- EMP process could increase the cost of undertaking EIA type work
- The costs of enforcement (monitoring) should be borne *by the developer*, and should be borne as part of the EIA.

### Monitoring

There was a wide ranging discussion of the issue of monitoring and key points emerged.

Once a mitigation project has been implemented monitoring the post implementation phase is essential to ensure that the project fulfils its design requirements and has no significant environmental impacts. [See Nottage p28]

To achieve these aims in a cost effective manner monitoring programmes must clearly be focussed on addressing key indicators of performance (targets) and impact, and must be undertaken for a period long enough to determine whether or not mitigation has been achieved. The monitoring results should be seen by those who are likely to be able to assess and act upon their findings. The archaeologists are good at releasing and publishing material.

Provision must also be made to **link monitoring activity with plans for corrective actions** should the actual outcome of the mitigation project deviate too far from design standards. Provide an effective means by which environmental impacts such as ecological changes can be detected and the **feedback to project management** can be rapid and reach to executive level. Defining **Limits of Acceptable Damage** which involves setting parameters at which the impacts of a development become unacceptable can be useful and allows remedial action to be taken.

Other points include:

**Developer pays** Clearly if monitoring is going to be required then this and the financial requirements should be a part of agreements with developers.

The period of monitoring must be frequent enough to detect any changes. It must also take into account variables such as the cycling of species.

One way of cutting costs is to use volunteer monitors, such as the general public or universities.

If the project is of sufficient size a scientific review group could be created, consisting of bodies such as the RSPB and English Nature.

The need for recommended monitoring procedures for faunal groups in terms of best practice; does documentation exist?

Assessment of the impact of development on sensitive sites is an imprecise science as is the assessment of the reduction in impacts by mitigation. We should not get too carried away believing we can monitor the effects of either.

## Stakeholder engagement and participation

This was the strongest point that emerged consistently from all the best practice case studies, effective stakeholder engagement and participation is essential to successful project delivery.

There are a wide range of issues that arise in relation to successful stakeholder engagement and these include:

- timing & process
- methodologies – in particular design which is sensitive to specific issues
- organisational structures.

It was very clear from the final discussion that each development needed to be considered on its merits and there were no simple solutions. **Great care needs to be taken with this work.**

A number of points were made in discussion and by delegates; these are not necessarily consistent with one another. Points include:

**Management groups and organisational structures** What was particularly interesting from the case studies was the wide range of management and organisational structures used to take through the EIA but also in relation to ongoing commitments. Where development was a part of the routine operation of management of an area or development management systems were in place to ensure compliance and on-going commitments. A good example of this was provided by Sian John in relation to the Harwich Haven work. For schemes with potentially significant implications for the environment (i.e. where it is warranted), the establishment of **consultative forums** - by the Developer - as a mechanism to ensure delivery can be helpful.

**Common objective** The team works most effectively when everyone, consultant, client, regulator, contractor are focussed on aligned **common objectives**.

**Early start** There was a strong message that the earlier the process of engagement can begin the better. This often suggests options and suggestions which can mitigate important issues for local communities and in ways that simply wouldn't occur to external technical experts. If this engagement can begin at the scoping stage so much the better because it can a highly productive process.

**Not an early start** There are issues surrounding **commercial confidentiality**, whereby stakeholders cannot be involved until certain paperwork has been signed.

In some cases it is important not to raise the public's expectations if the project is likely to take a long time or may not go ahead. This can cause uncertainties and unnecessary public outcry. It is best to wait until there is data that can be shown to them to ask for their opinions. Also, if you go into consultations and ask open questions then you will get open answers and end up with a lot of information.

It can be helpful if mitigation measures are fully discussed and agreed with key consultees as part of an **open process**, and should be set out in any planning document so that they can be fully incorporated into the project as built.

### **Who to ask and when**

The list of stakeholders should not be fixed at the beginning of the planning process. Instead, different people should be consulted at different stages when their opinions and knowledge is relevant or important to the issues at that time.

Consent should first be gained from the regulators, who can then advise who to consult next.

One option is to target consultation to a specific theme, but this can be dangerous as it can annoy stakeholders who are not consulted.

**Negotiation** Another method is not to consult people, but to negotiate with them instead, and then alter your plans in response to those negotiations.

Do current UK mitigation measures attempt to meet the expectations of the most appropriate?  
stakeholder groups, and how should “trade-offs” be conducted?

### **Other ideas and issues**

**Mitigation Banking** At the present time, there is a net loss of habitats and a lack of mechanisms for mitigation. Therefore, mitigation banking could be a useful tool for counteracting this current habitat loss. This could offer a lower risk of failure than is currently experienced with mitigation as a means of enabling ‘difficult’ development by facilitating the enhancement or creation of worthwhile habitats at a large spatial scale. The resultant long-term management of such areas has the potential to provide significant benefits for conservation.

*Acceptance of risk* in mitigation solutions (particularly in dynamic environments). Mitigation must avoid preservation and allow for dynamic change.

Definition of an appropriate/viable scale of response, based on the capacity/capability of the scheme proponent.

Definition of appropriate mitigation/compensation at a strategic level.

What are the responsibilities of funding bodies (including the Treasury) in ensuring that mitigation is appropriate and enforced?

A Section 106 agreement would be beneficial, as developers will not necessarily offer appropriate mitigation.

Concern was raised that in complicating the assessment process further with EMP and SEA work this would add further to workloads and paralyse development. This concern is reflected in the current Bill before Parliament which seeks to streamline development decision making.

The tension between the need to document issues plans and responsibilities and the delivery of flexible arrangements for implementation, review and revision.

## Conclusions

The meeting was very thought provoking and raised a variety of issues and clearly there are many challenges still to be met.

The design of the meeting based organised around the premise that mitigation measures were not working. Whilst this is clearly too simplistic the initial presentations and comments from the floor illustrate a **range of problems that exist** with the current arrangements surrounding EIA and a variety of issues with implementing mitigation and other measures. Many of the problem issues are long standing and there were many rather resigned views expressed along the lines that little has changed. Clearly if things are to change **further critical reviews of the existing problems and challenges need to be made.**

Any generic review would also need to consider **the main concerns**

- funding – no funding to ensure enforcement and compliance monitoring takes place.
- enforcement - lack of enforcement, differences between regimes etc
- monitoring: poor or no post development monitoring, lack of compliance and the links between them.

This meeting focussed mainly on ecological issues but the **generic elements of how the system should work** linking assessment through action plans to on-going management needs a clear conceptual framework which is implemented. The gap between Environmental Impact Assessment and Environmental Management Systems – both with their well understood and pre-scribed language was highlighted. This gap can be filled with the **Environmental Action Planning** process but clearly the level of implementation of EMPs is still low [a UEA study quoting 12% level was cited].

The best practice case studies showed convincingly that **stakeholder engagement and participation** are now essential in this process. Organisations undertaking EIA work need to have a high level of technical skills in designing and undertaking appropriate work with stakeholders. This area draws heavily on methodology and process developed by social sciences and this needs to be fully recognised in the expertise of organisations.

## References

Biodiversity impact report on **Biodiversity and EIA** (2000) RSPB/EN/WWF-UK/TWT contact [Helen.byron@rspb.org.uk](mailto:Helen.byron@rspb.org.uk)

Cabinet office **Guidelines on public consultation** – [www.cabinet-office.gov.uk](http://www.cabinet-office.gov.uk)

Chinn, L., Hughes, J. & A Lewis **Mitigating the effects of road construction** on sites of high ecological interest TRL report No 375

English Heritage 2003: **Coastal defence and the historic environment** – guidelines. Addresses aspects of the historic environment which have to be considered in coastal defence schemes. Free from [www.english-heritage.org.uk](http://www.english-heritage.org.uk)

Environment Agency – Environmental appraisal – **Guidance for IPPC Permit applications**. This is essentially an EIA.

**Equator Principles** – a framework for banks to manage environmental and social issues in project financing [www.equator-principles.com](http://www.equator-principles.com)

Treweek, J (1999) **Ecological Impact Assessment** Blackwell Science

## Mitigation, an introduction: what *should* happen in practice?

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### WHAT IS MITIGATION?

Any deliberate action taken to alleviate adverse effects, whether by controlling the sources of impacts, or the exposure of ecological receptors to them.

(Treweek, 1999)

Under UK legislation, proponents of development are required only to recommend suitable mitigation measures, not to demonstrate that they can and will be undertaken.

Demonstrating that they can deliver effective mitigation measures, where residual impacts are insignificant, requires a whole new attitude and approach across the whole planning and development control industry.

Government guidance:

'where significant adverse effects are identified, a description of the measures taken to avoid, reduce or remedy those effects' should be produced. The principles of following this guidance are fine, but the practice is another story.

### A HISTORY OF FAILURE?

- 194 ESs 1988-1993 reviewed.
- 20% ecology not mentioned; 66% referred only to 'habitat loss'.
- Only 11% recommended mitigation.
- Only 3% recommended changing siting of development.
- Screening/landscaping most popular measure.
- Only 3% included management plans.

(from Treweek & Thompson 1997)

Whilst the situation may have improved since the reviews of the ES's in 1993, the authors are aware that there is still a huge amount to do to continue to improve the treatment of ecology in Environmental Statements. In many instances, the ecological surveys, on which impact assessments are based, are woefully inadequate, so that mitigation cannot even be properly planned.

### TYPES OF ECOLOGICAL IMPACT

## MITIGATION<sup>1</sup>

### Avoidance

- Sensitive design
- Siting based on least damage criteria
- Avoidance of key areas
- Avoidance of key periods (eg bird breeding season)
- Desisting from impact-causing actions

### Reduction, moderation, minimisation

- Emission controls
- Noise barriers
- Screens
- Oil interceptors
- Controlled access during construction/operation
- Wildlife bridges, tunnels, ecoducts, fences

### Rescue - relocation, translocation

- Translocation of plants, animals, habitats
- Removal of turves for reinstatement

### Repair, reinstatement, restoration

- Reinstatement of habitat (woodland, wetland, grassland etc)
- Re-seeding of grassland
- Restoration of damaged hydrological function

### Compensation

- Donating substitute habitat areas
- Creating new habitat on off-site areas
- Provision of resources for creative management

Reduction, moderation, minimisation and rescue are the most popular forms of mitigation offer up in a placatory way within the ES. However, the best results occur where ecology is dealt with up front and where avoidance may be the most effective option.

## ECOLOGY COMES FIRST

Attention to siting and design is the best and most effective approach.

However, such modifications to a scheme usually occur after the design stage - major changes are then too expensive to implement.

## AVOIDANCE

- Reviews of EIAs have shows that presence of important designated areas for nature conservation (species or sites) is not acting as a deterrent to development proposals or triggering deliberate avoidance measures.
- Avoidance is much greater where independent review of scoping studies is undertaken (eg Netherlands).

As a result it should be mandatory to scope the project and agree with consultees the types of mitigation approaches and their extents which would be appropriate to maintain the biodiversity resource.

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<sup>1</sup> Mitigation is here used with its more inclusive American meaning. In the UK, mitigation *sensu stricto* excludes avoidance and compensation.

(from Treweek & Thompson 1997)

#### TRANSLOCATION

This is often portrayed as a reasonable and tried and tested approach, whereas in practice this is not the case.

- Rarely 100% effective
- Relative condition and siting of donor and recipient site
- Wetter communities more difficult than drier communities
- Size effects (e.g. fragmentation)
- Soils, hydrology
- Management continuity
- Landscape scale dynamics of species

Translocation is usually recommended only for the most important (usually, the most complex) habitats. However, experience shows that translocation only works well for common habitats. This dichotomy could account for the general poor reputation of translocation attempts.

#### COMPENSATION

- Where mitigation has a significant risk of failure
- May not provide 'like-for-like'
- Lack of knowledge on structure and function
- May fail to equate to 'natural' sites - dysfunctional compared to 'natural' sites
- Need to account for long-term change and ecological maturity
- Habitat Equivalency Analysis

#### THE MITIGATION PLAN

- Statement of objectives
- Assessment of features lost compared to those that will be replaced
- Description of actions such as timing of construction, erection of screening, planting
- A monitoring and maintenance plan (with associated contingencies)
- Feedback from monitoring - ensuring success (may need a considerable timescale)

Successful mitigation needs a Mitigation Plan at the earliest stage. Without this, mitigation is doomed to failure, or at least to serious criticism.

#### COMPENSATION - HABITAT CREATION

Success depends on:

- A narrow range of objectives
- Correct substrate condition
- Correct hydrology
- Long-term and flexible finance
- Management plans and management commitment
- Actions on feedback information

A focus group (sometimes called a Conservation Science Group) of stakeholders can fine-tune the delivery of the mitigation throughout the process. Commitment on the part of the

developer towards the sustained objectives of the mitigation plan is essential. Often, personnel change, company structures and attitudes change, and if the scheme doesn't get support at the highest level, it will almost certainly be watered-down, with drastic results on the mitigation scheme.

#### COMMON PROBLEMS

- Mismatch between impacts identified in the ES and proposed mitigation
- - eg emphasis on landscaping and tree planting rather than avoidance etc
- Reliance on cosmetic measures
- Reliance on untried untested methods
- Adverse impacts usually remain
- Too much emphasis on engineering solution without understanding the ecology
- Not enough controlled experimentation
- No enforcement linked to monitoring feedback
- Developers often want a quick fix
- Not enough time given for mitigation to 'get up to speed'
- Changes in personnel

#### A COMMON CURRENCY?

- Critical natural capital - which resources can be replaced and which cannot
- Replaceability - sparse science - reinstatement of viable populations of characteristic species in assemblages approaching composition before damage occurred
- Methods for evaluating habitat mitigation effectiveness
- Equivalence: setting replacement ratios
- Equivalence time: succession - may take decades

Need more scientific information – research and recorded experience. Both are very important. The lack of knowledge about mitigation successes and failures is testament to the fact that so few schemes receive proper scientific monitoring, and those where some monitoring is undertaken are often poorly designed and at best end up in the grey literature.

#### COSTS

- Replacement cost method
- A proxy for value or cost of environmental degradation
- Higher for more complex habitats
- Research

Analysis of mitigation costs is rarely carried out.  
Avoidance might have been the cheaper option!

#### WHAT SHOULD BE DONE

- State clearly which impacts are to be mitigated – this needs to be based on good survey data
- Relate the mitigation to the value of resource affected and severity of impacts
- More detail/rigour is required where protected species or designated sites are potentially affected
- Detail - enough to assess effectiveness over a reasonably long time span eg 10+ years
- Base effectiveness on experience elsewhere
- State where untested techniques are proposed

- Estimate residual impact and track prediction targets through monitoring (eg. repeat surveys on an annual basis)
- Include contingency measures if mitigation fails such as habitat enhancement, redesign of mitigation, consider off-site compensation
- Enforcement

#### IS THERE ANOTHER APPROACH?

This is an additional approach – not a different one. It should only be applied when all possible on-site mitigation has been explored and exhausted.

Although mitigation banking is not universally accepted, it can be used as a useful tool though it has yet to build up as a business in the UK as it has done in the USA.

#### MITIGATION BANKING - DEFINITION

Defined in US Federal guidelines as:

'the restoration, creation, enhancement and (in exceptional circumstances) preservation of wetlands and/or other aquatic resources, expressly for the purpose of providing compensatory mitigation in advance of authorised impacts to similar resources'

Could be applied to other habitats.

#### A MITIGATION BANK

- Not really a bank
- An entity that restores, creates, enhances or preserves a wetland habitat
- The entity sells tangible units of wetland, termed credits, to a developer for compensation for equivalent units that the developer has destroyed, termed debits
- Title never passes to the developer

#### ADVANTAGES

- The process/entity offers an alternative to piecemeal mitigation by producing large, ecologically superior and robust wetlands
- Mitigation banks deliver economies of scale, facilitate structured and efficient habitat regulation and encourage watershed-based wetland planning
- Can be applied to other habitats - woodlands, forests, created/restored heaths, restored moorland, grasslands

#### IN THE US

- 1993 Clinton's Wetlands Plan = innovative solution to unavoidable development losses and poor on-site mitigation success
- Several variations developed in US
- All banks had common theme of producing large blocks of wetland for use by developers as compensating mitigation for unavoidable wetland losses
- Multiple losses compensation by only a few banks
- Now a thriving industry - early problems of poor design, bad engineering and hydrology have been largely rectified

- Long-term management issues largely resolved

#### IN THE UK

- No industry yet because such mitigation is not required by law.
- Key conservation laws are implemented on a piecemeal basis - seek to inhibit development, which must be the right approach in most instances.
- English Nature address innovative solutions - where some developments are in the over-riding national interest, concept of mitigation (=compensation) should be considered.

#### KEY ISSUES OF MITIGATION BANKING

- No net loss
- Habitat definition - consistency
- Acceptable losses – a last resort measure, no alternatives are available, the IROPI test has been passed (ie. imperative reasons of overriding public interest), all mitigation has been undertaken
- Replacement - compensation ratio : hierarchy - restoration/creation/enhancement/preservation
- Gain before loss
- Realistic habitat creation - problems from scientific uncertainty

#### SUMMARY

##### Problem

- Mitigation successes are few

##### Solutions

- Early design is crucial – ecology should come first
- Demonstrate measures can and will be achieved - mitigation plan with enough detail to enable determination of effectiveness and risks of failure, with contingency measures
- Proper enforcement linked to monitoring
- Better scientific basis for decision making and case studies should be published
- Think about mitigation banking

## Mitigation in Context – the English Nature Perspective

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### 1. Sustainable Development

I want to look at the role of mitigation from an England point of view and mainly in relation to the Government's reform of the planning system. English Nature, as Government's advisers on nature conservation, sees mitigation as a key means of contributing to sustainable development.

It is the overarching commitment to sustainable development that gives mitigation its critical role in the planning process and helps ensure Government's meets its objectives<sup>2</sup> to secure:

- Social progress that meets the needs of everyone
- Effective protection of the environment
- Prudent use of natural resources
- Maintenance of high and stable levels of economic growth and employment

Of the Government's ten guiding principles for sustainable development, *taking account of costs and benefits, respecting environmental limits, adopting the precautionary and polluter pays principles and using scientific knowledge* are all key policy drivers to effective mitigation.

It is undoubtedly the requirement for the environmental impact assessment (EIA) of certain development schemes, and the need to comply with the requirement of the EU Directives<sup>3</sup>, that has been the most significant legal driver to ensuring adequate mitigation.

The EIA regulations encourage mitigation measures to be built in to the early design considerations of a scheme. Indeed, where English Nature has been tended to become more involved is when a scheme fails to mitigate against adverse environmental impacts and we become engaged in the negotiations over compensation.

For example, English Nature's major involvement at Dibden Bay container port Inquiry centred on the requirements of the Habitats Regulations<sup>4</sup> and whether such a proposal had an adverse effect on the integrity of an international wildlife site and what measures were required to compensate for this. More recently, we were involved in the development at the Shellhaven Refinery site in Essex where we managed to reach agreement over adverse effect and to negotiate compensation that we felt satisfied the Habitats Regulations and thus avoided major input at the Inquiry stage.

### 2. The Reform of the Planning System

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<sup>2</sup> A Better Quality of Life – A strategy for sustainable development for the United Kingdom - DETR May 1999

<sup>3</sup> EU Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (as amended by Council Directive 97/11/EC)

<sup>4</sup> Conservation (Natural Habitats, &c.) Regulations 1994.

The Planning Green Paper kick started the Government's drive for an improved planning system that would deliver sustainable development and create better places for people to live and work. It demanded that planning provide a positive tool rather than a negative brake on development<sup>5</sup>.

The consultation proved controversial, including proposals for Parliamentary fast-tracking of major infrastructure decisions. Government eventually back-tracked from this but remain committed to much faster public inquiries.

The Planning and Compulsory Purchase Bill 2002 was the end result of the Planning Green Paper and remains on track for enactment next summer.

Clause 38 of the Bill requires that regional and local plan-makers contribute to the achievement of sustainable development. This will be underscored by the need to implement the EU 'Strategic Environmental Assessment<sup>6</sup> Directive' in 2004. These two pieces of environmental legislation will establish a rigorous test of sustainability in the forward planning process.

Through the abolition of structure plans and the creation of regional spatial strategies Government intends to place statutory strategic planning at the regional level. This will need to be subjected to sustainability appraisal, and satisfy the forthcoming Strategic Environmental Assessment Directive, and so we have reasonable expectation that this places a strong emphasis on protecting the environment and taking an integrated and holistic approach to strategic land use policy.

We see regional planning as the appropriate geographical perspective to embrace a whole catchment/coastal approach to planning and to support the requirements of the forthcoming Water Framework Directive and of Integrated Coastal Zone Management

### **3. Planning Policy Statements**

One of the key commitments arising from the Planning Green Paper was the reduction of the volume of national planning advice. The result is the Office of the Deputy Prime Minister is busy reviewing the Planning Policy Guidance series to make each topic more concise and policy focussed.

We have been working closely with ODPM and DEFRA over the review of PPG9 on Nature Conservation<sup>7</sup>. The objective is to revise policy guidance to help support the England Biodiversity Strategy<sup>8</sup> and to reflect the new duties imposed on Government and public bodies under the Countryside and Rights Of Way Act 2000.

The end result will inevitably be a much briefer statement of Government policy for nature conservation. Good practice guidance and legal interpretation produced as two separate companion publications.

We are helping ODPM/DEFRA to ensure that the new PPS 9 provide clear national policy on the role of mitigation and good practice guidance of how this should be carried out. The

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<sup>5</sup> Planning: delivering a fundamental change – DTLR December 2001

<sup>6</sup> European Parliament and Council of the EU (2001) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

<sup>7</sup> Department of the Environment October 1994 – Planning Policy Guidance: Nature Conservation.

<sup>8</sup> Working with the Grain of Nature – A biodiversity strategy for England - DEFRA 2002.

accompanying legal circular will interpret how mitigation fits into the legal requirements of the EU Habitats and EIA Directives.

Effective mitigation in project design alone cannot ensure sustainable solutions to meeting national development needs. English Nature believes the mitigation of negative effects needs to form part of the following 5-stage sequential approach to sustainable environmental management.

- Stage 1 – information – there must be sufficient information available on the environmental resources and natural processes to assess the significance and impact of the project.
- Stage 2 – avoidance – options should be considered which avoid harm to environmental resources or natural processes.
- Stage 3 – mitigation – where adverse impacts are unavoidable then these should be mitigated either through the design of the scheme or through measures that can be subsequently guaranteed – for example, through a condition or legal agreement.
- Stage 4 – compensation – where, despite the mitigation proposed, there are residual adverse environmental effects can these be off-set by appropriate compensatory measures nearby/elsewhere.
- Stage 5 – new benefits – over and above the requirements to mitigate against, and compensate for, adverse environmental effects could the scheme be designed to provide net environmental benefits?

English Nature is pressing for such a sequential approach to become adopted as Government policy for all development in the new Planning Policy Statement on Biodiversity to replace PPG9.

Meanwhile, the need to provide adequate mitigation is increasingly driven by the requirement to comply with environmental law, notably where the EU EIA and Habitats Directives apply. Here, experience and legal precedents continue to hone good practice. For example, recent EIA case law<sup>9</sup> establishes that to mitigate against adverse impacts on protected species it is not adequate to require post-decision survey. This must be submitted prior to consent with mitigation in place to avoid the impact that will arise.

The forthcoming IEEM guidelines of Ecological Impact Assessment will be a further landmark leading the way for good practice. The following hypothetical case from the draft illustrates mitigation as part of a sequential approach to EIA.

'A new road may cause disruption to surface water flows, which may result in the drying of a pond (environmental **change**) in which great crested newts breed. One ecological **impact** of the loss of the pond may therefore be a reduction in the population of great crested newts in the vicinity. Those designing the road scheme should therefore consider whether it is possible to re-route the road to **avoid** disruption to surface water flows, or, if this is not possible, design the drainage to reduce the likelihood of disruption (**mitigation**). In this latter case, it will be necessary to estimate the **scale** of the residual impact by considering the likely effect on the **integrity** of the population of newts. The policy **significance** of the residual impact is a product of the scale and the **value** society places upon the ecological receptor. As great-crested newts are protected under the European Habitats Directive, it is likely that any significant residual impact in this instance would require **compensation**, such as the

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<sup>9</sup> R. v. Cornwall CC ex p. Hardy 22<sup>nd</sup> Sept 2000.

provision of a new pond, designed and located to restore the population to pre-development levels'.<sup>10</sup>

#### **4. Delivering mitigation**

As we have said, we see mitigation as part of a sequence. We see it having a role in a process which ensures that significant adverse environmental impacts are identified, avoided, mitigated against and compensated for with net benefits provided.

However, once the scheme has been selected, through this iterative, sequential design process then any mitigation measures agreed must be delivered.

This relies on the full investigation of the environmental impacts and the employing of competent professionals. One problem we see in the planning process is that many of the authorities responsible for issuing planning permissions, and other environmental consents, have limited resources and are often lacking in qualified staff, such as ecologists. Adequate environmental information and expertise is a pre-requisite for successful mitigation.

Measures have to be put in place which ensure that mitigation is delivered. The usual mechanism will be a planning condition or a Section 106 agreement to secure the necessary actions. Ideally, mitigation should be developed in advance of approval and be integral to project design.

A cast-iron S106 or planning condition does not ensure mitigation is delivered. Resources have to be applied to ensure that the mitigation is carried out and that its effectiveness is monitored.

Better enforcement is a priority of the Government's planning reforms. However, it is also one of the areas where resources become stretched. It is essential that planning authorities are provided with, and allocate, the resources necessary to ensure that mitigation measures are followed up and implemented.

#### **Summary - key points**

- The delivery of sustainable development is the overarching purpose of the land use planning system. Mitigation of the adverse environmental impacts of development will have a continuing and increasing role in helping to achieve this.
- Mitigation must not, however, be viewed as the sole route to sustainable development – rather an element in a sequential approach. Environmental impacts must be fully investigated so that the location of development can be selected to avoid significant adverse effects.
- Only where adverse effects are unavoidable should mitigation become necessary. Where residual impacts remain after mitigation then these should be compensated for.
- Where mitigation is developed then it is important that this involves suitably qualified specialists and full environmental information and once in place there is monitoring of compliance and adequate enforcement where necessary.

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<sup>10</sup> Taken from Guidelines for Ecological Impact Assessment – Amended Pilot November 2002 Institute of Ecology and Environmental Management on website [www.ieem.co.uk](http://www.ieem.co.uk)

## Mitigation – is it working? An RSPB perspective

### Duncan Huggett

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### Introduction

Mitigation is a process by which potentially environmentally damaging activities may be rendered compatible with nature conservation and wider environmental objectives. Consequently, it should be an important – indeed fundamental part of environmental management. However, as a concept, it is often misunderstood, as a process often abused and in terms of delivery, often a perceived failure.

Therefore, the best to start any assessment of whether mitigation works is to establish a common understanding of precisely what is meant by mitigation.

### What do we mean by ‘mitigation’

A key problem with mitigation is that there is no clear, unambiguous definition of what it means. For example, the same dictionary entry states that mitigation is:

1. Making something milder in manner or attitude, to make less hostile or mollify. This implies that it involves actions that help to reduce the scale of the final impact – in other words, a proactive approach; or
2. To provide relief from or to lessen the suffering. This clearly implies that an impact must occur before it can be mitigated – in other words, a reactive approach.

Providing an agreed and widely understood definition of what we mean by mitigation is not simply a matter of semantics, especially when it comes to the proper implementation of nature conservation law. This is because in the UK at least, ‘compensation’ as opposed to mitigation has a strict legal definition. Mix up the concepts of mitigation and compensation, and nature conservation site protection law could be perverted.

It is worth noting that elsewhere in the world, mitigation is often defined as including compensation. This is because mitigation is seen as a dynamic process – one that moves from avoiding the impact in the first place, through to ultimately providing replacement habitats. For example, in the USA, for the purposes of the Clean Water Act under which wetland permits are issued, mitigation is defined as:

*“sequentially avoiding impacts, minimising impacts and compensating for remaining unavoidable impacts”*

This sequential approach is also favoured by Canada. Here they go further. The Framework for the Application of Wetland Mitigation states that there is a need to ensure mitigation is not just seen as minimisation – rather it is a hierarchy of choices (Cox & Grose 2000). However, this approach does not fit in with the nature conservation requirements in the UK. Whilst the concept of having a hierarchy of choices is extremely important, the hierarchy itself should not be considered mitigation. Rather, mitigation is just one option – along with avoidance and compensation – that should be considered. Therefore, to draw a parallel with the USA and Canada, our hierarchy of choices should:

1. Avoid impacts;
2. Mitigate those impacts that cannot be avoided; and

3. Finally, compensate for those remaining impacts that remain after all attempts to mitigate them have been exhausted.

### **Mitigation vs compensation**

The most useful and certainly most influential definition of what mitigation is within the context of designated European Wildlife Sites is provided by the European Commission's guidance note on Article 6 of the Habitats Directive (European Commission 2000). This identifies some fundamental features of what mitigation should involve. Mitigation measures are:

- Measures aimed at minimising or even cancelling the negative impact of a plan or project, during or after its completion;
- Measures which are an integral part of the specifications of the plan; and
- Measures that distinguishable from compensatory measures *sensu stricto*.

Clearly, to understand what we mean by mitigation, there must also be an agreed definition of what compensation is. Again, the European Commission's Article 6 Guidance Note provides useful advice. Compensation should:

- Be specific to but independent of the project
- Compensate or offset the negative impacts of a project – corresponding precisely to the negative effects of the species or habitat concerned; and
- Be measures of last resort when all other safeguards are ineffective.

Further questions arise concerning the timing of mitigation and compensation, its location, and who should be responsible. Some of these issues are covered by the Commission's guidance note, and are also briefly considered in *Mitigating Circumstances* (Huggett 2003).

### **Mitigation: good and bad practice**

Over the years, the RSPB has been involved in hundreds of planning applications and development proposals. The Society has looked at how the Town and Country Planning system works and whether it delivers nature conservation effectively. For example, the practical implications and effectiveness of nature conservation safeguards in the planning system has been reviewed, and in particular, the use of planning conditions (Brooke 1996, DTA unpublished). Whilst these studies have looked at a wide range of issues in relation to the planning system, they have included an assessment of projects that have involved the mitigation of impacts.

A summary of some of the projects assessed is shown in table 1. They cover a range of different development proposals – some that require planning consent and others that are deemed permitted development.

See below

Table 1: Examples of development proposals including mitigation measures assessed in <i>Practical implications and effectiveness of nature conservation safeguards in the planning system</i> (DTA, unpublished)					
Development	Outcome	ES	Conditions	Agreement	Monitoring - enforcement
Flood defences	G	G	-	-	G
Windfarm	M	M	M	-	M
Housing	P	-	U	G	P
River moorings	M	-	-	P	P
Yacht haven	U	-	M	M	P
Inert landfill	G	-	G	-	G
Boasting lake	U	-	M	-	P
G = Good M = Moderate P = Poor U = Uncertain - = Not Applicable "Outcome" refers to the outcome of the Avoidance measures					

As an example of poor practice – a proposal to build more than 80 houses was likely to have a direct impact on a herb-rich calcareous grassland and coastal heathland SSSI. A planning agreement was signed which should have ensured the local nature conservation interests were consulted about the development of necessary roadways, drainage etc and that disturbed areas would be restored.

However, the fence around the development site was erected in the wrong place allowing an extra house to be developed within the SSSI. The construction of a drainage pumping station – the permission for which was granted separately – resulted in significant damage. Measures to protect orchids and gentians were never carried out and the lack of any management plan has meant that areas have become invaded with gorse to the extent that the coastal heathland may never be restored. There has been little monitoring or enforcement of the planning agreement.

As an example of good practice – plans to replace over 4km of coastal flood defences adjacent to an estuarine SPA began with scoping an environmental assessment that provided the focus for consultations with nature conservation organisations. A detailed environmental statement was then prepared which clearly identified possible mitigation measures before the proposal were finalised. This allowed the impact and feasibility of mitigation measures to be assessed. The final environmental statement also set out proposals to monitor the mitigation measures, to validate the predictions and outline actions to remedy any unforeseen implications of the proposals. Commitments were also made in the environmental statement to guarantee delivery.

Not surprisingly, central to the mitigation measures was avoiding disturbance to feeding waterfowl by avoiding construction during the most sensitive periods of the year and modifying works – especially at high tide – to avoid disturbing roosting birds.

### **What makes good mitigation**

From the assessment of development proposals and associated planning conditions and agreements, a number of broad conclusions can be drawn out. First and foremost, given that mitigation measures always involve a degree of uncertainty to a greater or lesser extent with regard to the outcome for nature conservation (despite the inclusion of risk management measures), it will always be better to try and avoid impacts in the first place. However, given that consent can be given despite the fact that not all harmful effects on nature conservation are – or can be avoided, then mitigation is essential to minimise this harm.

The development of a clear, comprehensive Environmental Statement is essential. This must include a description of mitigation measures that – if developed in sufficient detail – can be

carried through as a guaranteed commitment when carrying out the development. The scoping and preparation of an Environmental Statement is a good opportunity to consult nature conservation bodies about possible mitigation measures before proposals are finalised. These stages can assess how to mitigate adverse effects and examine the feasibility of mitigation measures.

Commitments must be made to ensure mitigation measures are carried out. Planning conditions and agreements to achieve mitigation come in a wide variety of types. In their simplest form, they may only need to require Environmental Statement commitments to be carried out strictly in accordance with the proposals. More complicated arrangements (including legal agreements) may need to be made to refine and clarify mitigation measures; to require monitoring of impacts if that has not already been proposed; and to provide mechanisms for remedying any unexpected adverse effects that are detected. Whatever the type of condition or agreement, they should refer to identifiable operations, uses and areas of land, and to specific time periods wherever possible, rather than require the submission of mitigation schemes for subsequent approval.

It is important that all of the effects of a development, and consequently all of the mitigation measures, are carefully considered before the permission is granted, otherwise, unnecessary and avoidable further damage can result.

Despite the provision of commitments and agreements, monitoring of compliance is important and may need to be undertaken on a regular basis during construction – and from time to time thereafter – to ensure that adverse effects are being or have been reduced and that mitigation measures remain in place and are effective. Where necessary, enforcement action may be needed to remedy breaches of planning control mechanisms that were designed to reduce harm to nature conservation.

Finally, it should not be forgotten that carefully designed mitigation measures can achieve some nature conservation enhancement in the longer term. However, it is important that 'planning gain' does not become the focus of the proposal – the justification for an otherwise damaging proposal.

## **Conclusions**

There is no doubt that there is a huge amount of experience – both in the UK and elsewhere – in the development of mitigation measures. However, unlike elsewhere (e.g. the USA, Canada), whilst there is a legal imperative to implement mitigation measures, there is no clear framework within which to do so and no clear guidance on what is acceptable. Until this is addressed, mitigation will continue to be developed on an ad hoc, case-by-case basis and be subject to wide variation in interpretation. Instead of spending time debating what might or might not be acceptable in any one particular circumstance, we could be investing our efforts in designing 'win-win' solutions that put the 'sustainability' back in development.

## **Key points**

There needs to be a common understanding of what mitigation is and how this differs from compensation;

There needs to be a clear (legal?) framework within which decisions are taken - options or decisions are hierarchical: avoid impacts; mitigate unavoidable impacts; compensate for residual impacts; and

Clear, unambiguous guidance!

**References**

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## Port development and estuarine stewardship

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In the Harwich Haven, Suffolk, development has been achieved over recent years, including a major approach channel deepening and the extension of deepwater facilities at the Port of Felixstowe, with a measured programme of monitoring and mitigation designed to avoid any impact on adjacent European Nature Conservation sites. The approach adopted includes:

- Regular compliance monitoring – overseen by an independent advisor;
- Annual reporting – again by an independent advisor;
- A 'Regulators Group' (with decision-making authority);
- The inclusion of NGOs;
- The co-ordination of all mitigation and monitoring initiatives within the estuarine system;
- On-going monitoring and research;
- Shared responsibility;
- The acceptance of some (measured) risk as a result of the open exchange of information.

Through the example provided by the Harwich Haven Authority and the Port of Felixstowe, this talk examines a successful approach to ensuring the delivery and success of mitigation based on good data and the establishment of a consultative forum. It also considers the need to accept some risk in developing mitigation strategies within a dynamic environment, the relevance of 'scale' and the value of estuarine stewardship, within reason.

### Key issues for resolution

- Acceptance of risk in mitigation solutions (particularly in dynamic environments).
- Monitoring as mitigation?
- Definition of an appropriate/viable scale of response, based on the capacity/capability of the scheme proponent.
- Definition of appropriate mitigation/compensation at a strategic level.

### Best practice recommendations

- For schemes with potentially significant implications for the environment (i.e. where it is warranted), the establishment of consultative forums - by the Developer - as a mechanism to ensure delivery.
- The delivery of mitigation requirements through existing management forums (e.g. Habitats Regulation 33 Estuary Management Groups).
- Mitigation must avoid preservation and allow for dynamic change.

## **Managed realignment: Monitoring project delivery**

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Once a mitigation project has been implemented monitoring the post implementation phase is essential to ensure that the project fulfils its design requirements and has no significant environmental impacts.

To achieve these aims in a cost effective manner monitoring must clearly be focussed on addressing key indicators of performance and impact.

The monitoring programme must be undertaken for a period long enough to determine whether or not mitigation has been achieved.

Provision must also be made to link monitoring activity with plans for corrective actions should the actual outcome of the mitigation project deviate too far from design standards.

This presentation will discuss these issues in relation to a number of managed realignment projects that have been undertaken by HR Wallingford.

## Upper Derwent Mitigation: a case study of best practice

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Arup were appointed by Yorkshire Water Services Limited (YWS) in the late 1990's to undertake a detailed assessment of the risk associated with pollutants entering the Corallian aquifer through swallow holes on the banks of the River Derwent. The swallow holes are in the Forge Valley

just downstream of a National Nature Reserve, next to a SSSI and in the grounds of a Scheduled Ancient Monument Site. The Corallian aquifer is the source of Scarborough's water supply and the swallow holes are hydraulically linked to Irton borehole water supply works.

Once the relative risks had been established a suite of options for reducing the risks was developed for consideration by YWS. The key option identified was the need to increase the level of control that YWS had over the flow of river water into the swallow holes. Two sluices that had been constructed over the swallow holes in 1976 for this purpose were no longer functioning. Siltation of the river had blocked the intakes and reduced the capacity of the channel. Floods had scoured the banks around the intake structures exposing numerous further swallow holes.

Arup prepared and administered a scheme to desilt over 1km of river and restore the banks using a combination of gabion revetments and green engineering techniques. Significant ecological issues related to sensitive plant species and native white clawed crayfish. Field survey and temporary relocation of the crayfish was undertaken using licensed crayfish handlers and detailed records of the crayfish were obtained.

Social issues related to the fact that the river ran along the end of the back gardens of a number of houses in the village. Personal visits with visual information outlining the existing and proposed environmental improvements were undertaken. Careful project planning, rigorous consultation, sensitive working methods, considerate mitigation, development and implementation of an environmental action plan and the use of sustainable green engineering techniques led to successful completion of the scheme. Close cooperation between the Arup, Environment Agency and YWS team brought significant benefit. There was no negative feedback from the public despite intrusive works affecting people's gardens and footpaths.

The scheme was awarded the YWS Business Excellence Gold Award in the Environmental Improvements Category. The scheme subsequently won the Engineering Council Environmental Award for "Engineering in the Natural Environment".

### Project Scope

- Protecting the water supply to Scarborough
- Managing engineering works in an environmentally sensitive area
- Environmental mitigation
- Social engagement

## **Strangford Lough - achieving the beneficial impacts'**

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Mitigation measures are described in Environmental Statements but not uncommonly are not fully undertaken by the developer for a number of reasons. As a result there has been some disillusionment over the effectiveness of the mitigation process. The paper describes the mitigation practice employed for the refurbishment of the sea defences of Newtownards, Northern Ireland. The sea defences were within Strangford Lough, a Marine Nature Reserve, a designated site under the EC Birds and Habitats Directives, and perhaps the most important conservation area in Northern Ireland.

The paper demonstrates how, with a well designed and appropriate consultation policy providing involvement of the stakeholders, a project can be taken forward. In this instance a Working Group was used as the main consultation procedure. The consultations, needed in any event in any contemporary EIA process, could, in this way, be integrated with the project's engineering development, and the mitigation of residual impacts fully discussed and agreed with stakeholders.

The use of a fully explained and detailed mitigation proposal which was built into the planning agreement gave confidence to regulator and developer alike that given sound management of the construction process the project could be developed without unnecessary delays and with reduced risk of any unforeseen adverse impacts. A comprehensive environmental monitoring programme was implemented, supervised by an Environmental Monitoring Committee, that was itself, drawn from the older Working Group but which also included representatives from appropriate regulatory bodies. In this way the construction and initial years of operation of the sea defence scheme have been kept under appropriate scrutiny of a development in an area of key conservation interest.

### **Contents of the paper:-**

- Introduction and need for defence improvements.
- Concerns expressed over defence scheme.
- Formulation of public involvement strategy - use of a Working Group.
- Development of mitigation measures
  - Strategic or design mitigation approaches
  - Detailed specific mitigation measures

- Environmental monitoring programme
- Findings of the monitoring programme.
- Conclusions about the mitigation and the monitoring programme.

**Four points on the mitigation process that can be taken forward to the discussion**

- Engage stakeholders in the project from conception of its aims, through scoping and review of its impacts, to identification of mitigation, and beyond.
- Mitigation measures are fully discussed and agreed with key consultees as part of an open process, and should be set out in any planning document so that they can be fully incorporated into the project as built.
- Provide an effective means by which environmental impacts such as ecological changes can be detected and the feedback to project management can be rapid and reach to executive level.
- Maintain a close contact with all levels of the community throughout project design and construction.

## Lessons Learned from Overseas: Mitigation, Monitoring & the Equator Principles

### Rob Evans

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Whilst the UK has a history of developing environmental assessment and mitigation techniques, much of the recent innovation in this field has come from international projects. The financial institutions are increasingly requiring project proponents to not only ensure that adequate mitigation is included within the project design, but also to regularly report on the effectiveness of that mitigation. With the recent development of the "Equator Principles", signatory banks will extend such monitoring regimes to any projects with the potential for significant adverse environmental or social impacts and which require more than \$50M of capital borrowing. For UK projects this may result in stricter measures than those traditionally required by the UK planning system. The presentation will develop this theme using examples from a range of UK and overseas projects.

### Key issues for discussion:

- Do current UK mitigation measures attempt to meet the expectations of the most appropriate stakeholder groups, and how should "trade-offs" be conducted?
- What are the responsibilities of funding bodies (including the Treasury) in ensuring that mitigation is appropriate and enforced?
- Do the ISO 14000 series of standards and guidelines provide a process which could be applied to ensure that proposed mitigation is enacted effectively?

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### The "Equator Principles"

An industry approach for financial institutions in determining, assessing and managing environmental & social risk in project financing

#### **PREAMBLE**

Project financing plays an important role in financing development throughout the world. In providing financing, particularly in emerging markets, project financiers often encounter environmental and social policy issues. We recognize that our role as financiers affords us significant opportunities to promote responsible environmental stewardship and socially responsible development.

In adopting these principles, we seek to ensure that the projects we finance are developed in a manner that is socially responsible and reflect sound environmental management

practices.

We believe that adoption of and adherence to these principles offers to manage our risk exposures to environmental and social matters associated with the projects we finance, thereby allowing us to engage proactively with our stakeholders on environmental and social policy issues. Adherence to these principles will allow us to work with our customers in their management of environmental and social policy issues relating to their investments in the emerging markets.

These principles are intended to serve as a common baseline and framework for the implementation of our individual, internal environmental and social procedures and standards for our project financing activities across all industry sectors globally.

In adopting these principles, we undertake to review carefully all proposals for which our customers request project financing. We will not provide loans directly to projects where the borrower will not or is unable to comply with our environmental and social policies and processes.

### **STATEMENT OF PRINCIPLES**

*We will only provide loans directly to projects in the following circumstances:*

1. We have categorised the risk of a project in accordance with internal guidelines based upon the environmental and social screening criteria of the IFC as described in the attachment to these Principles ([Exhibit I](#)).
2. For all Category A and Category B projects, the borrower has completed an Environmental Assessment (EA), the preparation of which is consistent with the outcome of our categorisation process and addresses to our satisfaction key environmental and social issues identified during the categorisation process.
3. In the context of the business of the project, as applicable, the EA report has addressed:
  - a) assessment of the baseline environmental and social conditions
  - b) requirements under host country laws and regulations, applicable international treaties and agreements
  - c) sustainable development and use of renewable natural resources
  - d) protection of human health, cultural properties, and biodiversity, including endangered species and sensitive ecosystems
  - e) use of dangerous substances
  - f) major hazards
  - g) occupational health and safety
  - h) fire prevention and life safety
  - i) socioeconomic impacts
  - j) land acquisition and land use
  - k) involuntary resettlement
  - l) impacts on indigenous peoples and communities
  - m) cumulative impacts of existing projects, the proposed project, and anticipated future projects
  - n) participation of affected parties in the design, review and implementation of the project
  - o) consideration of feasible environmentally and socially preferable alternatives
  - p) efficient production, delivery and use of energy
  - q) pollution prevention and waste minimization, pollution controls (liquid effluents and air emissions) and solid and chemical waste management

Note: In each case, the EA will have addressed compliance with applicable host country laws, regulations and permits required by the project. Also, reference will have been made to the minimum standards applicable under the World Bank and IFC Pollution Prevention and

Abatement Guidelines ([Exhibit III](#)) and, for projects located in [low](#) and [middle income](#) countries as defined by the [World Bank Development Indicators Database](#), the EA will have further taken into account the then applicable IFC Safeguard Policies ([Exhibit II](#)). In each case, the EA will have addressed, to our satisfaction, the project's overall compliance with (or justified deviations from) the respective above-referenced Guidelines and Safeguard Policies.

4. For all [Category A](#) projects, and as considered appropriate for [Category B](#) projects, the borrower or third party expert has prepared an Environmental Management Plan (EMP) which draws on the conclusions of the EA. The EMP has addressed mitigation, action plans, monitoring, management of risk and schedules.

5. For all [Category A](#) projects and, as considered appropriate for [Category B](#) projects, we are satisfied that the borrower or third party expert has consulted, in a structured and culturally appropriate way, with project affected groups, including indigenous peoples and local NGOs. The EA, or a summary thereof, has been made available to the public for a reasonable minimum period in local language and in a culturally appropriate manner. The EA and the EMP will take account of such consultations, and for [Category A](#) Projects, will be subject to independent expert review.

6. The borrower has covenanted to:

a) comply with the EMP in the construction and operation of the project

b) provide regular reports, prepared by in-house staff or third party experts, on compliance with the EMP and

c) where applicable, decommission the facilities in accordance with an agreed Decommissioning Plan.

7. As necessary, lenders have appointed an independent environmental expert to provide additional monitoring and reporting services.

8. In circumstances where a borrower is not in compliance with its environmental and social covenants, such that any debt financing would be in default, we will engage the borrower in its efforts to seek solutions to bring it back into compliance with its covenants.

9. These principles apply to projects with a total capital cost of \$50 million or more.

The adopting institutions view these principles as a framework for developing individual, internal practices and policies. As with all internal policies, these principles do not create any rights in, or liability to, any person, public or private. Banks are adopting and implementing these principles voluntarily and independently, without reliance on or recourse to IFC or the World Bank.

**Exhibit I:** [Environmental and Social Screening Process](#)

**Exhibit II:** [IFC Safeguard Policies](#)

**Exhibit III:** [World Bank and IFC Specific Guidelines](#)

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