

# **QUEENSLAND ACID SULFATE SOIL TECHNICAL MANUAL**

## **LEGISLATION AND POLICY GUIDE**

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# 1. INTRODUCTION

The disturbance of acid sulfate soils (ASS) may increase the environmental risk and may to varying degrees, degrade the local environment. Harmful substances can be transferred from the site of acid generation by surface and/or groundwaters that move from the disturbed area to other locations. The mixing of acid deposits with surface or groundwaters results in the formation of acidic waters that present an immediate hazard in themselves and a medium through which environmental degradation takes place. Due to these attributes, the disturbance of ASS has resulted in a significant degradation of the aquatic environment and continues to pose both short- and long-term risks to riverine, estuarine and near-shore marine biota in coastal Queensland.

ASS occur in low-lying coastal areas, predominantly below 5 metres Australian Height Datum (AHD) including the subsoil or sediments below 5 metres AHD where the natural ground level of the land exceeds 5 metres AHD. The legislation, policies and other government requirements discussed in this guide become applicable and may require compliance when it is proposed to disturb such soils, depending on the nature of the disturbance.

As a very broad summary the environmental legal system in Queensland requires all people (including corporations and governments) conducting activities that affect the Queensland environment to do three things:

- obtain and comply with any necessary licence, permit or government approval;
- comply with any relevant standard imposed by the law, including taking all reasonable and practicable measures to prevent or minimise *environmental harm*<sup>1</sup> (the *general environmental duty*<sup>2</sup>); and
- if unlawful material or serious *environmental harm* occurs or may occur, notify the relevant authority (generally the authority which issued any relevant licence or approval, or the Environmental Protection Agency).

However, to comply with these obligations in practice it is necessary to understand what licences, approvals and standards exist. It is therefore necessary to examine the environmental legal system in more detail.

This *Legislation and Policy Guide* is a chapter of the **Queensland Acid Sulfate Soil Technical Manual** and provides a summary of the legislation, policies and requirements as they relate to the disturbance of ASS. This Guide:

- is not a regulatory or policy document;
- is not intended to be a comprehensive statement of the provisions; and
- does not replace direct reference to the source documents and professional legal advice.

Rather, this *Legislation and Policy Guide*:

- is a commentary for all stakeholders on ASS legislation and policy issues;
- is intended to be a general summary and overview of the provisions of the legislation and policies associated with ASS;
- aims to provide an integrated index to legislation, policies and regulations relevant to ASS and their disturbance at the State and Commonwealth levels; and
- aims to provide simplified ‘entry points’ to legislative and policy source documents that are relevant to the proposed disturbance of ASS, via typical case-by-case examples.

The *Legislation and Policy Guide* should be used in conjunction with other chapters of the Technical Manual as they are progressively written. In particular, the implementation of

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<sup>1</sup> See section 14 of the EP Act and also section 2.3 of this Guide for information on environmental harm.

<sup>2</sup> See section 2.3 of this Guide for information on the general environmental duty.

requirements that arise from the applicable legislation and policies should be carried out within the framework of the *Soil Management Guidelines*. Each chapter of the Technical Manual has been or will be written with a multi-disciplinary approach to ensure that all relevant issues are covered.

The content of this particular chapter is current at the time of writing, but care should be taken as time passes to ensure that the reader is aware of any changes to legislation and policy as they arise. It is intended that the *Legislation and Policy Guide* will be reviewed regularly to ensure that it remains up-to-date. It is also intended that the contents of this chapter will be kept up-to-date on the Department of Natural Resources and Mines website ([www.nrm.qld.gov.au/land/ass](http://www.nrm.qld.gov.au/land/ass)) from whence it may also be downloaded.

This chapter has been written in plain English to make the content legible for a wide readership; we have minimised the use of *wheretofores* and *notwithstanding*s but make no commitments about *pursuant* so that solicitors and barristers do not feel excluded. Further, we have implemented the use of nested cardinal references in order to provide some sense of accomplishment to bureaucrats (see 3.4.8.2.1.5 part IIb section 7.22(d)). Consultants are encouraged to append corroborative detail intended to add technical verisimilitude to otherwise bald and unconvincing reports (see Gilbert and Sullivan 1885).

## 1.1 Purpose of this Guide

The purpose of this chapter is to provide an overview of Queensland and Commonwealth legislation and policies that regulate the disturbance of ASS. It is anticipated that the guide will be used by consultants, legal practitioners, earthmoving contractors, developers, agricultural and aquaculture producers, sand and gravel extraction operators, community groups and administering authorities from State and local government.

While this chapter is intended to be a helpful guide, it is the applicant's responsibility to ensure that all applicable requirements for the management of ASS are identified and complied with when proposing to carry out a specific activity. Appropriate advice on these matters should be sought.

It is the aim of this guide to provide some aids to 'navigation'. There is apparent overlap in the various legislation and policies applicable to ASS. This has arisen partly from the fact that the risks associated with developments in ASS have only become properly understood in the last decade, and have been incorporated into existing overarching legislation, as well as leading to specific policies. In many instances, the way to deal with the overlaps is to find the 'strongest' or most relevant legislation and policy, and implement and adhere to these; other legislation and policies may become subordinate. However, compliance with the obligations created by one legislative scheme does not obviate the obligation to comply with another legislative scheme.

## 1.2 Legislation and Policies

Legislation and policies covered in this chapter seek, amongst other things, to protect the surface waters and groundwaters of the near-shore environment and estuaries of Queensland, thereby protecting the local environment, and working towards ecologically sustainable development (ESD).

The concept of ESD has been defined in Australia's National Strategy for Ecologically Sustainable Development 1992 as: *'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'*.

**Legislation:** Promulgated via various Acts of Parliament, regulations and local laws, legislation comprises statements of the laws of the day. Legislation applies to all within its jurisdiction.

Legislation is legally enforceable and non-compliance may incur fines and/or imprisonment, and may require remediation and/or restitution. Specific Acts or parts of Acts may be repealed, but the process is generally slow. Exceptions for specific cases require specific legislation, which may be laborious, time-consuming and/or expensive to obtain, eg. the *Sanctuary Cove Resort Act 1985*.

By their nature, the various Acts may be phrased in legalese; they may be not easy to understand; the way they interact with each other may not be clear; and they may require legal expertise to interpret. It is the role of the court to construe the legislation in the context of a particular set of facts.

Examples of legislation relevant to ASS include: the *Environmental Protection Act 1994* (EP Act; Queensland legislation), the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; Commonwealth legislation applying Australia-wide) and the ‘statute-based’ policies such as the Environmental Protection Policies for Air, Noise, and Water that are subordinate legislation to Queensland’s EP Act.

**Policies:** These are statements of the government and/or government departments of the day, intended to provide a guide to the way the relevant departments will implement the laws via permits and approvals, or the types of activities that will or will not be permitted. Policies can be used to provide a framework for decision makers to ensure that in a given set of circumstances, an agency can provide a response that is predictable, lawful, defensible and fair. They can range from decisions of Cabinet or Ministers, to speeches by political leaders, to departmental manuals. They can include not only published statements termed ‘policies’ but can also include work place procedures and instructions, and technical guidelines.

State departmental policy in Queensland cannot override legislation. It must be consistent with both current legislation and subordinate legislation.

In a particular case, while the policy stays in place, the interpretation or application of a policy may sometimes be relaxed eg. where the rigid application of it may cause a substantial injustice or a nonsensical result. In such a situation, the administering authority will need to be able justify any departure from policy, and the applicant may need to demonstrate that such a relaxation will still achieve compliance with the relevant legislation, while not leading to significant increases in environmental risk or hazard in both the short- and long-term.

In the event of a departure from policy requirements, the proponent may be required to take long-term responsibility for the consequences of their actions. For instance canal or extractive industry developers may be required to take responsibility for their developments for a protracted post-operational period, or until such a time as the risks to the environment have been demonstrated to be not significant.

Examples of relevant State policy are the *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soils* (SPP 2/02) (which has statutory force but is not subordinate legislation), and the *Soil Management Guidelines* (which are non-statutory).

**Plans:** These are spatial or geographical statements of policies and the direction of the government of the day. Some plans can have statutory force, and others provide an aid to long-term planning for large regional areas, or simply for very large developments.

Examples of plans are *SEQ 2021: A Sustainable Future*, a local government’s planning scheme and a regional NRM plan.

## ASS Tip 1 – Common law principles and ASS

Common law is the term describing the collective of legal principles and concepts that have evolved through decisions of the courts. Common law is different to legislation. Legislation is the law that originates through an Act of Parliament. Common law principles such as negligence or nuisance could potentially be used in a litigation associated with ASS. This could result in liability for damages suffered by neighbours or other people.

“A *nuisance* is an indirect interference with a person’s land or enjoyment of it. This could be associated with noise, smells and other forms of air or waterborne pollution” (Bates 2004). In the case of *Van Son v Forestry Commission of NSW* [1995], an unreasonable interference that caused pollution (ie. logging operations undertaken in the state forest had caused soil erosion that ultimately polluted the creek) was found to reflect liability in nuisance (Fisher 2000). In the case of ASS disturbance, water quality altered after contamination with leachate could potentially reflect liability in nuisance.

“Liability in *negligence* depends on whether a duty of care is owed to the person affected, whether a reasonable standard of care has been used in carrying out or omitting to carry out the activity in question, and whether the damage caused was reasonably foreseeable as a result of those activities or omissions” (Bates 2004). In the case *Graham Barclay Oysters Pty Ltd v Ryan* [2002], Mr Ryan made a claim against Barclay Oysters, the State and the local government after he contracted Hepatitis A after consuming oysters. While Mr Ryan was ultimately unsuccessful in his claim against the State and local governments, Barclay Oysters was found to be liable in common law negligence. This case has sparked some discussion on the scope of government liability in situations where it has failed to enforce its statutory obligations; and failed to protect the environment. Failure to adequately manage ASS (eg. at a construction site) could potentially reflect liability in negligence. The range of parties who could be held liable would include the developer/applicant, their consultants, the works contractors or the local government/assessment manager. This will depend upon the facts and circumstances of the case.

## 1.3 Legislation and Policies Covered in this Guide

Legislation and policies that will be covered in the following sections of this chapter are listed and referenced below. All may be directly or indirectly applicable to the disturbance of ASS.

Relevant State legislation and policy:

- Section 2 *Environmental Protection Act 1994* (EP Act);
- Section 3 *Coastal Protection and Management Act 1995* (Coastal Act);
- Section 4 *Fisheries Act 1994* (Fisheries Act);
- Section 5 *Water Act 2000* (Water Act);
- Section 6 *Vegetation Management Act 1999* (VM Act);
- Section 7 *Integrated Planning Act 1997* (IPA);
- Section 8 *State Development and Public Works Organisation Act 1971* (State Development Act); and
- Section 9 *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soils* (SPP 2/02).

Relevant Commonwealth legislation:

- Section 10 *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); and
- Section 11 *Environment Protection (Sea Dumping Act) 1981* (Sea Dumping Act).

There are statutory instruments related to some of the Acts above that have relevance to ASS eg. the *Environmental Protection (Water) Policy 1997* under the EP Act (see section 2) and SPP2/02 (section 2).

Other Acts will apply to some ASS issues, for example provisions of the *Nature Conservation Act 1992* might be triggered by ASS leachate that was harming or threatening listed species. However, as this Act does not have specific ASS provisions and those issues are likely to be addressed under other more appropriate legislation such as the EP Act, the workings of the Nature Conservation Act are not expanded upon in this document.

Two strategies for ASS have also been developed: the *National Strategy for the Management of Coastal Acid Sulfate Soils* and the *QASSMAC Acid Sulfate Soils Management Strategy for Queensland* (see section 12). Disturbance associated with roads, rail and ports are covered under separate legislative arrangements and these issues are briefly discussed in section 13.

This chapter does not cover local government plans and policies—these should conform to the broader State plans and policies, but may contain specific detail relevant to the local environment and community.

## 1.4 Terminology

The term ‘disturbance’ in this guide refers to any activity or action that will or is likely to expose ASS to oxidising conditions eg. movement, excavation or drainage of ASS.

For the sake of brevity, ASS, as used throughout this guide, refers to the spectrum of ASS, ranging from:

- *in situ* non-oxidised and therefore non-acidic soils, sediments and other material with significant amounts of oxidisable iron sulfides;
- partially oxidised soils, sediments and other material with variable ratios of existing acidity and unoxidised iron sulfides; through to
- completely oxidised (no remnant sulfides) soils, sediments and other material with significant existing acidity<sup>3</sup>.

Also included are soils, sediments and other material that contain one or more of a spectrum of salts such as jarosite, which can form during the oxidation of sulfides and subsequent reactions. Such salts are capable of generating further acidity on dissolution or other chemical reactions (referred to as retained acidity<sup>4</sup>). AASS and PASS refer to actual and potential acid sulfate soils, sediments and other material respectively.

## 1.5 Hierarchy of Legislation and Policies

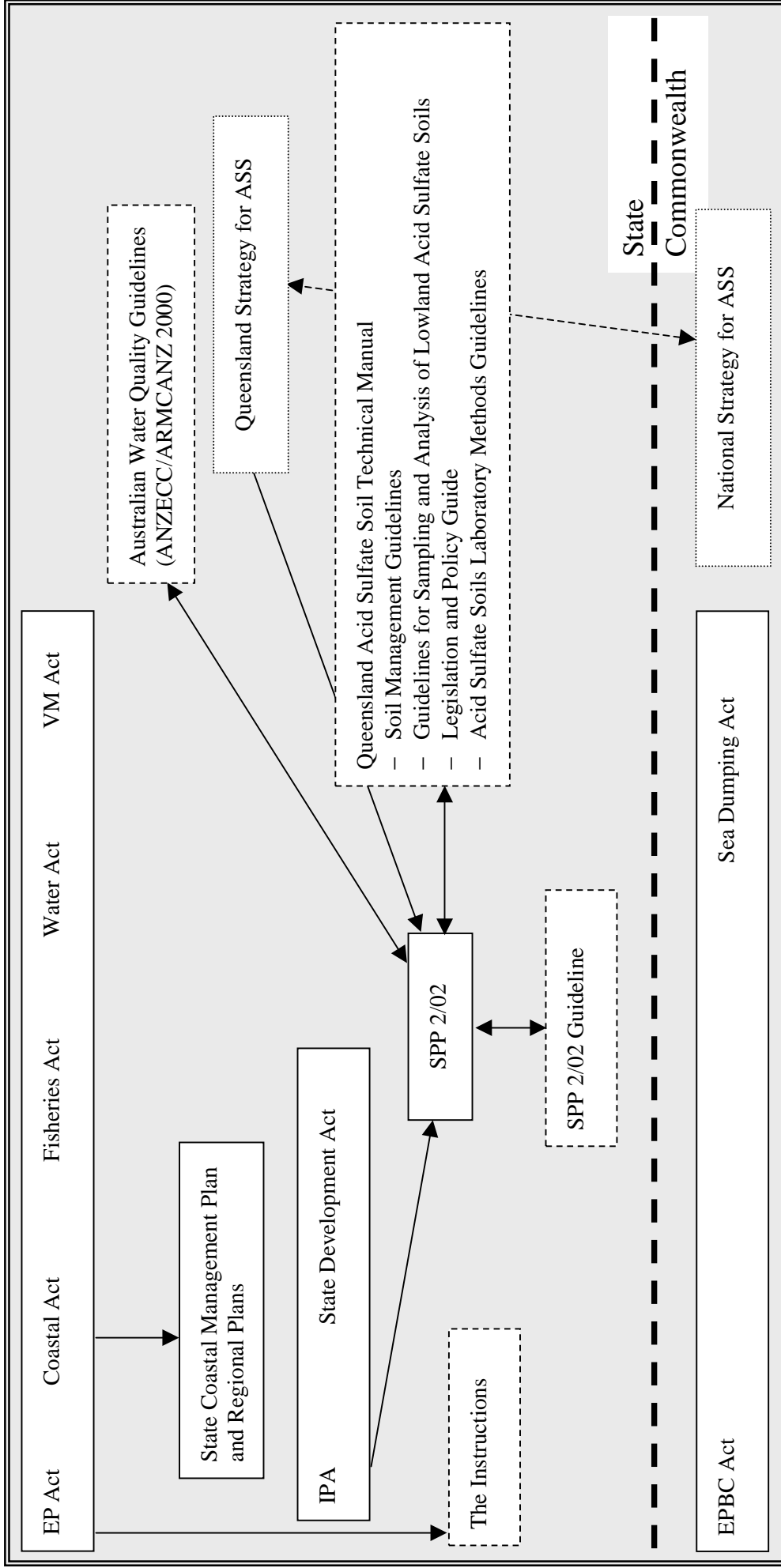
There is an overall hierarchy or progression in the legislation and policies that apply to ASS. At the State level, are the EP Act, the Coastal Act, the Fisheries Act, the Water Act and the VM Act. The IPA and State Development Act focus on implementation and development but comply with the intent of the preceding Acts. Also at State level, is the SPP 2/02. At the Commonwealth level are the EPBC Act and the Sea Dumping Act.

The hierarchy, interdependence and logic flow of the various legislation, policies and associated plans, guidelines and strategies are depicted graphically in Figure 1. The States are constitutionally independent in regard to natural resource management, with State legislation being sovereign in its own right. The Commonwealth legislation prevails to the extent of any inconsistency. Some guidelines (eg. ANZECC/ARMCANZ 2000) whilst not specifically mentioned in Queensland legislation, provide the framework for the application and implementation of the legislation.

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<sup>3</sup> This definition may include some naturally acidic soils, sediments and other materials with no past history involving iron sulfides. Such soils are not ASS but some management of acidity is still warranted. See the *Soil Management Guidelines*.

<sup>4</sup> Forms of acidity (eg. existing acidity, actual acidity, retained acidity and potential acidity) are defined in the *Soil Management Guidelines*.



Note: The lines connecting the boxes are not meant to represent connections between legislation, but are intended to reflect logic flow.

**Figure 1.** Hierarchy and interdependence of the various legislation, policies and associated plans, guidelines and strategies relevant to ASS.

## 1.6 Role of State Agencies

Acid sulfate soils are multi-stakeholder in nature and activities that may disturb these soils are regulated by numerous local, State and Commonwealth government agencies as already indicated above. However, NR&M is the lead agency in Queensland for ASS issues, and as lead agency is undertaking research into the identification and management of ASS. NR&M's role includes mapping the location of ASS and education and training programs for government agencies, local governments, consultants, developers, and community groups. In spite of NR&M's lead role, it is the responsibility of the EPA at the State level to regulate the environmental management of ASS through its range of statutory tools and legislation, to ensure that the potential for environmental harm from the disturbance of ASS is minimised. The situation then becomes even more complex as the DPIF may become involved if fisheries legislation is also triggered by an activity.

Consequently on 12 of June 2001, a *Memorandum of Understanding for the Provision of Consistent Advice on Coastal Development Involving Acid Sulfate Soils* (the MOU) was signed by EPA, NR&M and DPIF to clarify the related roles and responsibilities of the agencies, and to ensure adequate communication between all parties. The MOU establishes an agreed system for assessment and referral among the three State Government agencies.

### ASS Tip 2 – Roles of various government agencies

Various State, local and Commonwealth government agencies have a role in ASS legislation and policy. These are briefly summarised below:

#### State

Department of Natural Resources, Mines and Energy – lead agency for ASS; responsible for promoting consistent advice from the State Government on development involving ASS, and ensures there is adequate communication and consultation on ASS issues between NR&M, EPA and DPIF. NR&M must provide timely advice on ASS to these agencies if requested. NR&M is also an advice agency on ASS for development specified in schedule 1 of the IP Regulation. The Department develops technical standards, and provides advice to the community about ASS identification, laboratory methods and management for ASS and the SPP 2/02.

Environmental Protection Agency – responsible for the administration of the EP Act, EP Regulation and the Coastal Act. EPA conditions development approvals under the EP Act, Environmental Protection Orders, EM Programs and Environmental Evaluations that deal with ASS. EPA investigates and enforces incidents involving the disturbance of ASS that may cause or threaten *environmental harm*. The EPA has a role to ensure the *Instructions for the Treatment and Management of Acid Sulfate Soils* remain up-to-date with *best practice environmental management*, and can provide advice about environmental protection, *general environmental duty*, *environmental harm* and coastal management.

Department of Primary Industries and Fisheries – responsible for the administration of the Fisheries Act and Fisheries Regulation. DPIF conditions development approvals under the Fisheries Act. DPIF can provide advice about the management and protection of fisheries resources and fish habitats.

Department of Local Government, Planning, Sport and Recreation – responsible for the overall administration of the IPA and IP Regulation. For certain State Planning Policies, other State Departments can help to develop the policy, while DLGPSR oversees its formulation eg. SPP 2/02.

#### Local Government

Responsible for developing planning scheme provisions that deal with ASS, and are generally the administrators of the Integrated Development Assessment System (IDAS). Under the SPP 2/02, local government assesses development applications where <1000 m<sup>3</sup> of disturbance is to occur, and assess and seek advice from NR&M for development applications where >1000 m<sup>3</sup> of disturbance is to occur. Local government set and enforce conditions for development approvals under IDAS.

#### Commonwealth

Department of Environment and Heritage (formerly Environment Australia) – responsible for the administration of the EPBC Act. DEH sets conditions for development approvals under the Act.

## 1.7 Applicability Matrix

The following table can be used to determine the **minimum set** of legislation and/or policies that will be relevant to specific development activities. It is not a comprehensive list—the mix of development activities and relevant legislation and policies provide a guide only and will not cover every circumstance. It is the responsibility of the proponent to ensure all relevant legislation and policies are adhered to. The proponent should check with the regulatory agency to see whether they have satisfied the appropriate legislative requirements. The table below does not include local government policies, planning schemes, codes, requirements or land tenure; it is the responsibility of the proponent to investigate whether specific local government provisions apply.

**Table 1.** Applicability matrix for development activities and specific legislation and policy.

	EP Act	Coastal Act	Fisheries Act	Water Act	VM Act	IPA	State Development Act	SPP 2/02	EPBC Act	Sea Dumping Act
<b>Refer to section of this guide:</b>	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9	Section 10	Section 11
All activities that disturb ASS must comply with the <i>general environmental duty</i> (GED) as defined by the EP Act, and as such complying with the GED is a requirement of all activities below.										
<b>Maintenance dredging of an older, tidal canal adjacent to a Marine Park and a Fish Habitat Area</b>	✓ It is an ERA <sup>5</sup>	✓ In a coastal area <sup>6</sup>	↻ Could impact on FHA <sup>7</sup> or if marine vegetation is disturbed	✗ Does not apply to tidal waters	✗ No vegetation is being cleared	✗ Not 'development' under IPA	✗ Not triggered	✗ Not applicable	↻ Could be applicable if affecting a matter of NES <sup>8</sup>	↻ Applies if dredge spoil/waste is dumped at sea
<b>Basement excavation adjacent to a tidal watercourse</b>	↻ No, unless it is an ERA or <i>environmental harm</i> results	✓ In a coastal area	↻ No, unless marine vegetation is disturbed	✗ Does not apply to tidal waters	✗ No vegetation is being cleared	✓ As part of DA <sup>9</sup>	✗ Not triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	↻ Could be applicable if affecting a matter of NES	✗ No waste being dumped at sea
<b>Infrastructure trenching as part of urban development</b>	↻ No, unless it is an ERA or <i>environmental harm</i> results	↻ Could if includes tidal works	↻ No, unless marine vegetation is disturbed	↻ Does not apply unless it interferes with a watercourse <sup>10</sup>	↻ Permit may be required <sup>11</sup>	✓ As part of DA	✗ Unlikely but can, depending on the scale/significance of works	✓ As part of DA if exceeding SPP 2/02 trigger values	↻ Unlikely, unless affecting a matter of NES	✗ No waste being dumped at sea

<sup>5</sup> ERA – Environmentally Relevant Activity as defined under the EP Act, see section 2.5 of this Guide.

<sup>6</sup> Refer to the State Coastal Management Plan and any Regional Coastal Management Plan applicable to the area to determine the definition of a coastal area.

<sup>7</sup> FHA – Fish Habitat Area as defined under the Fisheries Act, see section 4 of this Guide.

<sup>8</sup> NES – National Environmental Significance as defined under the EPBC Act, see section 10 of this Guide.

<sup>9</sup> DA – Development Application, referred to under the IPA, see section 7 of this Guide.

<sup>10</sup> A watercourse is defined under the Water Act, see section 5 of this Guide.

<sup>11</sup> Some exemptions apply if clearing is natural and ordinary consequence of other assessable development, see section 6 of this Guide.

	EP Act	Coastal Act	Fisheries Act	Water Act	VM Act	IPA	State Development Act	SPP 2/02	EPBC Act	Sea Dumping Act
<b>Refer to section of this guide:</b>	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9	Section 10	Section 11
All activities that disturb ASS must comply with the <i>general environmental duty</i> (GED) as defined by the EP Act, and as such complying with the GED is a requirement of all activities below.										
<b>Filling 10 ha of low-lying, swampy rural zoned land to a depth of 2 metres</b>	☞ No, unless it is an ERA <sup>5</sup> or <i>environmental harm</i> results	✓ In a coastal area <sup>6</sup>	☞ Unlikely, unless marine vegetation is disturbed	☞ Applies if swamp is a designated watercourse <sup>12</sup>	☞ Permit may be required <sup>11</sup>	✓ As part of DA <sup>9</sup>	✗ Not triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	☞ Could apply if affecting threatened biota in swamp	✗ No waste being dumped at sea
<b>Construction of a farm dam in a local government area requiring a development application</b>	☞ No, unless it is an ERA or <i>environmental harm</i> results	☞ Unlikely	☞ Unlikely	☞ May apply if interfering with a watercourse <sup>10</sup> , also depending on dam size (for safety reasons)	☞ Permit may be required	✓ As part of DA	✗ Not triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	☞ Unlikely, unless affecting a matter of NES <sup>8</sup>	✗ No waste being dumped at sea
<b>Large-scale canal/lake development connected to a tidal river</b>	✓ It is an ERA	✓ In a coastal area	☞ Could impact on FHA <sup>7</sup> or may involve removal of marine plants	☞ Applies if affecting a designated watercourse	☞ Permit may be required	✓ As part of DA	✓ Could be triggered depending on the scale/significance of works	✓ As part of DA if exceeding SPP 2/02 trigger values	☞ Could be applicable if affecting a matter of NES	✗ No waste being dumped at sea
<b>Extractive industry adjacent to a World Heritage listed wetland</b>	✓ It is an ERA	✓ In a coastal area	☞ Could impact on FHA or may involve removal of marine plants	☞ Applies if affecting a designated watercourse	☞ Permit may be required	✓ As part of DA	✗ Not triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	☞ Applicable if affecting a matter of NES	✗ No waste being dumped at sea
<b>Draining agricultural land in a coastal environment</b>	☞ No, unless it is an ERA or <i>environmental harm</i> results	✓ In a coastal area	☞ Could involve removal of marine plants	☞ Applies if affecting a designated watercourse	☞ Permit may be required	☞ Could be applicable	✗ Not triggered	✗ Not triggered	☞ Applicable if affecting a matter of NES	✗ No waste being dumped at sea
<b>100 ha of aquaculture ponds adjacent to the Great Barrier Reef Marine Park</b>	✓ It is an ERA	✓ In a coastal area	☞ Could involve removal of marine plants	☞ Applies if affecting a designated watercourse	☞ Permit may be required <sup>9</sup>	✓ As part of DA	☞ Could be triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	☞ Applicable if affecting a matter of NES	✗ No waste being dumped at sea

<sup>12</sup> A waterway barrier works approval will be required if a permanent or temporary barrier is being placed across a waterway (tidal or freshwater).

	EP Act	Coastal Act	Fisheries Act	Water Act	VM Act	IPA	State Development Act	SPP 2/02	EPBC Act	Sea Dumping Act
<b>Refer to section of this guide:</b>	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9	Section 10	Section 11
All activities that disturb ASS must comply with the <i>general environmental duty</i> (GED) as defined by the EP Act, and as such complying with the GED is a requirement of all activities below.										
<b>Using clean soil to fill a site at 100 m AHD</b>	✍ No, unless it is an ERA <sup>5</sup> or <i>environmental harm</i> results	✍ Unlikely unless in a coastal area <sup>6</sup>	✍ Unlikely	✍ Unlikely	✍ Unlikely	✍ Unlikely unless part of a DA <sup>9</sup>	✍ Unlikely	✗ Does not trigger SPP 2/02 values	✍ Unlikely, unless affecting a matter of NES <sup>8</sup>	✗ No waste being dumped at sea
<b>Marina development declared 'significant project' under State Development Act</b>	✍ No, unless it is an ERA or <i>environmental harm</i> results	✓ In a coastal area	✍ Could impact on declared FHA <sup>7</sup> or may involve removal of marine plants	✍ Applies if affecting a designated watercourse <sup>10</sup>	✍ Permit may be required	✓ As part of DA (some IDAS stages are replaced by State Development Act provisions <sup>13</sup> )	✓ Triggered	✓ As part of DA if exceeding SPP 2/02 trigger values	✍ Applicable if affecting a matter of NES	✍ Applies if dredge spoil/waste is dumped at sea

<sup>13</sup> See section 8 of this Guide for information on the stages involved.

## 2. ENVIRONMENTAL PROTECTION ACT 1994

### 2.1 Introduction

The following provides a brief summary of the provisions of the *Environmental Protection Act 1994* (EP Act) most likely to have relevance when dealing with ASS issues. The EP Act is administered or enforced by government agencies that are generically referred to as the ‘administering authority’. Members of the public can also seek to enforce obligations under the EP Act by way of a ‘restraint order’ or a private prosecution. Whilst there have been no private prosecutions under the EP Act, at least one private citizen has successfully obtained a restraint order under the EP Act<sup>14</sup>. It should be noted that in that case, the Court made the restraining order despite the fact that the restrained party had a licence under the EP Act.

**Administering Authority:** Generally the Environmental Protection Agency (EPA), but for some activities local government or the Department of Primary Industries and Fisheries (DPIF).

**Jurisdiction:** Conduct both inside and outside the State of Queensland that causes or has the potential to cause *environmental harm* within the geographical boundaries of Queensland<sup>15</sup>.

**Availability:** The EP Act can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information about the Act is available from [www.epa.qld.gov.au](http://www.epa.qld.gov.au).

#### ASS Tip 3 – Devolved activities

Some activities regulated by the EP Act have been devolved to regulatory agencies other than the EPA. For example, local government is responsible for extraction <5000 tonnes per year. DPIF is responsible for piggeries. For more information, refer to the regulation.

The **object**<sup>16</sup> of the EP Act is to protect Queensland’s environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (‘ecologically sustainable development’). The EP Act provides a range of statutory tools that might be used to achieve the object of the EP Act in dealing with ASS issues depending on the circumstances. Those tools include:

- Environmental Authorities for Environmentally Relevant Activities (ERA)—now part of the IDAS process under the IPA;
- Environmental Management Programs (EM Programs);
- Environmental Protection Orders (EPO);
- Environmental Evaluations (Environmental Investigations and Audits);
- Financial Assurances;
- Restraint Orders;
- Compulsory Examinations;
- Penalties for unlawful *environmental harm* and other offences (including ‘executive liability’);
- Orders to remedy *environmental harm*; and
- Orders to compensate parties that remedy *environmental harm*.

The EP Act does not prevent the administering authority from exploring alternative remedies. For example if all the parties involved agree, an innovative solution to environmental issues could be considered. Coercive and punitive tools are employed only after careful consideration is given to all relevant factors. The EPA has employed Environmental Authorities, EPOs, EM Programs and Environmental Evaluations to achieve desired outcomes in situations where ASS management was required. Examples of how each of these tools has been applied to address ASS issues in

<sup>14</sup> *Crowther v State of Queensland* [2003] QPEC 17.

<sup>15</sup> See section 25 of the EP Act.

<sup>16</sup> See section 3 of the EP Act.

Queensland are provided in ASS Tips throughout this section. For guidance on the sort of factors taken into account by administering authorities, regard should be had to the *Enforcement Guidelines* published by the EPA.

#### **ASS Tip 4 – Environmental Protection Orders and ASS**

To date, EPOs have been issued to address ASS issues on various grounds, including securing compliance by the person: with the *general environmental duty*, with a condition of an Environmental Authority, and with an environmental protection policy.

In south-east Queensland, EPOs have been used to address ASS issues in the following ways:

- to have stockpiles of untreated, uncontained ASS placed close to a river removed and treated;
- to have sulfidic fines from sluicing of ASS to produce fill for an urban development treated and removed from exposed and shallow parts of an underwater reburial location where the sulfides had been exposed to oxidising conditions through dewatering; and
- to have acidified water neutralised/treated and monitored at a canal development site, an urban lake-style development, two separate golf course developments and an extractive industry operation after ASS had been disturbed.

There are rights of review and appeal for EPOs, but these are costly and time consuming in practice. It is often better and cheaper for all parties involved to negotiate both before and after the issue of the EPO.

#### **ASS Tip 5 – Environmental Evaluations and ASS**

An Environmental Evaluation is used to evaluate the source, cause or extent of *environmental harm* being caused, or likely to be caused by an activity or event, and the need for an EM Program for the activity or event.

The EPA has used Environmental Evaluations to require ASS investigations, and water quality monitoring to occur:

- at an extractive industry site in south-east Queensland discharging waters of pH <3 and contaminated with iron, aluminium and suspended solids to a river (groundwater investigation and an environmental management plan were also required);
- at a rural enterprise in south-east Queensland after a fish kill occurred in an adjoining drain and discharges high in metals were found to a south-east Queensland river with declared Fish Habitat Area status; and
- at an extractive industry site in north Queensland to determine whether the source of acidity being generated was from extracted soils being processed or localised drawdown of groundwater.

#### **ASS Tip 6 – Environmental Management Programs and ASS**

Unlike an EM Plan, an Environmental Management Program (EM Program) is a formal plan of action approved by the EPA as the administering authority to improve an enterprise's environmental management performance over time. They are a statutory tool under the EP Act and once approved, an EM Program is legally binding on both the enterprise and the EPA, imposes obligations on both parties and similar to licences, it is an offence to breach an EM Programs.

An EM Program must state: objectives to be achieved and maintained under the program; *best practice environmental management* for the activity (among other things); a timetable for reaching the objectives; and the proposed monitoring and reporting on compliance with the program.

The EPA has approved a ten-year voluntary EM Program to manage the environmental risk from ASS at a dredge spoil disposal site in north Queensland.

#### **ASS Tip 7 – Environmental Management Decision under the EP Act**

Making an 'Environmental Management Decision' means that an administering authority is making a decision about an Environmental Authority, EM Program or EPO. Such decisions include whether to grant/approve or refuse applications for Environmental Authorities or EM Programs; whether to issue an EPO or a requirement to submit a draft EM Program; and what conditions or requirements should apply to those documents.

## 2.2 Best Practice Environmental Management

The administering authority must consider the standard criteria<sup>17</sup> in making a decision about an Environmental Authority, EM Program, EPO or a removal permit. Among those standard criteria is the *best practice environmental management*<sup>18</sup> for the activity under the authority, program, order or permit. The EP Act defines the *best practice environmental management* of an activity as the management of the activity to achieve an ongoing minimisation of the activity's *environmental harm* through cost-effective measures assessed against the measures currently used nationally and internationally for the activity. In deciding the *best practice environmental management* of an activity, regard must be had to the following measures:

- strategic planning;
- administrative systems put into effect, including staff training, monitoring and review of the systems;
- public consultation;
- product and process design; and
- waste prevention, treatment and disposal.

Regard may also be had to other measures in deciding the *best practice environmental management* of an activity.

Hence, *best practice environmental management* is an ever-evolving, and in some ways site-specific standard that requires the consideration of a number of measures. Among other things, the **Queensland Acid Sulfate Soil Technical Manual** contains advice on measures for ASS management that may be used in planning and design, performance and process, and administration and review of activities that may impact on ASS with environmental consequences. The advice provided is considered current at the time of publication and must be appropriately applied to site-specific situations.

### ASS Tip 8 – Standard criteria and decisions about ASS in relation to the EP Act

In deciding whether to grant or refuse an application for Environmental Authority, or to approve or refuse a draft EM Program, or issue an EPO, the standard criteria of the EP Act must be considered. In addition to *best practice environmental management* for the activity, the standard criteria includes documents and things such as: any applicable EPP (see EPP Water section 24), any applicable Commonwealth, State or local government plans, standards, agreements or requirements (such as Australian Water Quality (AWQ) Guidelines<sup>19</sup>, National Strategy for the Management of Coastal ASS, codes of practice). Submissions made by the applicant and submitters are also considered which may include, for example the results of any groundwater and ASS investigation and any ASS management proposals that are submitted. The character, resilience and values of the receiving environment are also considered. This is not a comprehensive listing of things that would be considered under the standard criteria, but some of the things most likely to be considered with specific relevance to ASS issues.

## 2.3 General Environmental Duty

The EP Act requires that a person must not carry out any activity that causes, or is likely to cause, *environmental harm* unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the *general environmental duty*)<sup>20</sup>. Failing to comply with the *general environmental duty* allows the administering authority to take coercive action (eg. EPOs), but does not on its own activate the penalty provisions of the EP Act. Similarly, the administering authority cannot seek a 'restraint order' on the basis of a failure to comply with the *general environmental*

<sup>17</sup> See Schedule 3 of the EP Act.

<sup>18</sup> See section 21 of the EP Act.

<sup>19</sup> AWQ Guidelines refers to the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000), ANZECC and ARMCANZ.

<sup>20</sup> See section 319 of the EP Act.

**duty** alone. However, failure to comply with an EPO is an offence<sup>21</sup> and can form the basis of an application for a restraint order<sup>22</sup>.

Consequently, complying with the **general environmental duty** provides a layer of protection from many of the punitive sections in the EP Act, such that the person will not be liable for a penalty if **environmental harm** occurs, despite observance of the duty, such as by an accident.

The **general environmental duty** in the EP Act applies to all activities undertaken in Queensland, including disturbing and draining land affected by ASS. The **general environmental duty** in particular is a principal, unifying concept and its importance cannot be over-emphasised.

In deciding the measures required to demonstrate the **general environmental duty** in a given circumstance, regard must be had to:

- the nature of the harm or potential harm; and
- the sensitivity of the receiving environment; and
- the current state of technical knowledge for the activity; and
- the likelihood of successful application of the different measures that might be taken; and
- the financial implications of the different measures as they would relate to the type of activity.

#### **ASS Tip 9 – Are you complying with your *general environmental duty*?**

When ASS are present at a site, there are many examples of what might be considered necessary by the EPA to achieve compliance with your **general environmental duty**. For example:

The first step in managing ASS is to adequately characterise the sulfides that are present on-site, and in some instances surrounding sites. This may involve a desk-top assessment, site investigation and soil sampling. For non-linear disturbances involving up to 1000 m<sup>3</sup>, guidance on appropriate sampling selection and laboratory analysis can be found in the SPP 2/02 Guideline. For larger disturbances, refer to the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland* (Ahern *et al.* 1998) and the *Acid Sulfate Soils Laboratory Methods Guidelines* (Ahern *et al.* 2004). Surface and groundwater resources also require adequate characterisation. See the AWQ Guidelines and the SPP 2/02 Guideline. In other words, it is easier to work on a site if you know what is there to begin with.

Once the site and waters have been adequately characterised, it is important to devise appropriate management strategies for soils and surface and groundwaters. This may entail hydrological isolation of the site using bunds and diversions drains, as well as maintaining these structures in the long term, and using guard layers of an appropriate neutralising agent under treatment pads, water monitoring and treatment, among other management measures. If dewatering of the groundwater is proposed, a risk assessment may be required, along with modelling of the cone of depression. Further advice on risk-based soil management can be found in the *Soil Management Guidelines*. Basic concepts of management of water can be found in the SPP 2/02 Guideline, the EPP Water and the AWQ Guidelines.

A survey of the various forms of fauna and flora dependent on the waters should be conducted. If fauna and flora of significant value is present or could otherwise be affected, then authorisation for site disturbance should be obtained under the *Nature Conservation Act 1992* and any other relevant legislation.

If it is clear that compliance with the EP Act cannot be achieved immediately, but can be achieved at a point of time in the future, an EM program to reduce the level of harm and document the transition to an environmental standard should be considered<sup>23</sup>.

Appropriate strategies to manage the site should be documented in an environmental management plan (EM Plan) and updated regularly as management practices evolve. Clear strategies must be documented to detect breaches of performance criteria. Contingency plans should also be planned at the onset of the development application and implemented in case things go wrong on-site. The EM Plan may need to be flexible to account for changing or unexpected occurrences on site. It should be auditable, and contain clear reporting arrangements. See the SPP 2/02 Guideline for more information on ASS EM Plans.

Remember—an EM Plan has to be fully implemented on-site and regularly updated as standards and practices improve and evolve. If that is not done, then the EM Plan may not be useful as a means of demonstrating compliance with the **general environmental duty**.

<sup>21</sup> See section 361 of the EP Act.

<sup>22</sup> See section 505 of the EP Act.

<sup>23</sup> See section 330 of the EP Act.

The EP Act defines *environmental harm* as “any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value...” and “environmental harm may be caused by an activity whether the harm is a direct or indirect result of the activity” (extracts from section 14 of the EP Act). The relevant administering authority (generally the EPA) must be notified when an activity has caused unlawful serious or material *environmental harm*<sup>24</sup> and failure to do so is an offence under the EP Act.

It is a defence to a charge of unlawfully causing *environmental harm* to prove that the harm happened whilst complying with the *general environmental duty* and whilst carrying out an (otherwise) lawful activity<sup>25</sup>. Ignorance is not the basis of a defence to *environmental harm* ie. just because a proponent was not aware that ASS were there (eg. because the site wasn't investigated properly) is no defence for not managing the potential impacts. The EP Act makes it an offence to unlawfully cause *environmental harm*. Liability arises once it is shown that the *environmental harm* was not authorised and that the person caused it. The onus then shifts to the person charged to prove that the harm happened whilst they were complying with the *general environmental duty*<sup>26</sup>. As at 1 July 2003, five people had been sentenced to terms of imprisonment for unlawfully causing *environmental harm*. Offences relating to unlawfully causing *environmental harm* can lead to up to 5 years imprisonment and also carry high financial penalties. Hence, due to the environmental risk inherent in disturbing or draining ASS, it is advisable to implement a level of environmental management appropriate to the risk of causing *environmental harm* that is posed by the activity.

#### **ASS Tip 10 – General environmental duty as a defence under the EP Act**

To date no one has successfully run a court defence for material or serious *environmental harm* based on complying with their *general environmental duty*. In EPA v. Universal Abrasives Pty Ltd, the defendant sought to demonstrate its good environmental standing, but the facts painted a completely different picture. Universal Abrasives Pty Ltd was fined \$375 000. In EPA v. Caboolture Shire Council the defendant was convicted and fined \$30 000 in December 2002 for allowing sewage to spill into waters. The Council presented a strong *general environmental duty* argument, but still pleaded guilty to the offence.

## **2.4 Codes of Practice**

The EP Act also makes provisions for the Minister to approve codes of practice stating ways of achieving compliance with the *general environmental duty* for any activity that causes or is likely to cause *environmental harm*<sup>27</sup>. Codes of practice have specific roles under the EP Act. A code of practice is one of the things considered by the administering authority in making certain decisions under the EP Act. It is also a defence to a charge of unlawfully causing *environmental harm* if it can be proved that the defendant was complying with the terms of an approved code of practice<sup>28</sup>. Contravention of an EP Act code of practice is not an offence. In other words, compliance with a code of practice under the EP Act is voluntary. Apart from the guidance contained within an EP Act code of practice, the protection it offers against the more substantial offences under the EP Act is appealing.

As at July 2004, a number of codes of practice have been gazetted (agriculture, cane growing, fruit and vegetable production, railway noise, piggeries, dairy farming, prawn farming). Some of those codes attempt to deal with the issue of ASS.

<sup>24</sup> See section 320 of the EP Act.

<sup>25</sup> See section 436 of the EP Act.

<sup>26</sup> See section 436 of the EP Act.

<sup>27</sup> See section 548 of the EP Act.

<sup>28</sup> See section 463 (3) of the EP Act.

## ASS Tip 11 – Don't get your codes confused!

Conduct in accordance with an Environmental Authority is lawful and will generally protect the licensee from the risk of prosecution. There are a variety of documents produced under Queensland legislation and referred to loosely as 'codes'. Conduct in accordance with a code may have some of the benefits that are obtained under an Environmental Authority. They might be produced under one of a number of Acts and have a specific role under that Act. Make sure that you understand what the code you are referring to is meant to do, and what legislation if any it is relevant to. For more information about the specific code, refer to the actual code and/or the legislation associated with the code.

- **EP Act Code of Practice:** The EP Act<sup>29</sup> makes provision for the Minister to approve codes of practice described in section 2.4 of this chapter by gazette notice. A code of practice under the EP Act is generally **prepared voluntarily by an industry** or industry association to give guidance to their members on measures that they should take to prevent or minimise *environmental harm*. **Compliance is voluntary**, but the code is available as a defence to a charge of causing *environmental harm* only if the defendant has complied.
- **EP Act Code of Environmental Compliance:** The EP Act<sup>30</sup> also makes provision for the Minister to approve codes of environmental compliance by gazette notice and that approval is confirmed by the EP Regulation<sup>31</sup>. Codes of environmental compliance contain standard environmental conditions for carrying out certain ERAs and **developed by the EPA in consultation with industry**. **Compliance is compulsory** for operators of those ERAs governed by those codes.
- **Fisheries Act Code of Practice:** The Fisheries Act<sup>32</sup> allows the Chief Executive of the **administering authority to prepare** a code of practice for persons to whom the Fisheries Act applies. The codes of practice FH003 *Cane growers on-farm maintenance of drains with marine plants* and FH002 *Local government works for public infrastructure maintenance* are for use with Strategic Permits issued under Section 51 of the Fisheries Act. It is **compulsory to comply** with the relevant code of practice if working under one of those Strategic Permits.
- **IPA Codes:** These are documents or parts of documents identified as a code in a planning instrument (for example a Planning Scheme), or for IDAS in IPA or another Act, or in a preliminary approval. SPP 2/02 requires planning schemes to include a code/s against which to assess developments with potential to disturb ASS (see section 5 of the SPP 2/02 Guideline). They can be used both to assess a development proposal to which they apply, or control the operation of development (for example, codes which relate to particular types of use). Generally, they contain a statement of their intent and performance criteria, with acceptable measures to achieve those criteria. However those measures may not be exhaustive. Code assessment is an important component of the IDAS process and codes require careful drafting in order to achieve the desired outcomes. Planning scheme codes are **developed by local government** in consultation with State agencies. **Compliance with a code is compulsory** for assessable and self-assessable development.
- **Vegetation Management Codes:** Under the VM Act, the Minister is required to prepare regional vegetation management codes to regulate clearing of vegetation on freehold and state land. **Compliance with the code is compulsory** for clearing vegetation as prescribed under the IPA and VM Act.
- **Australian Standards:** Whilst Australian, ISO, IEC, ETSI and JIS standards are valuable for determining whether a person is complying with their *general environmental duty*, Australian standards are not recognised as 'codes' under the EP Act.

## 2.5 Environmentally Relevant Activities

Schedule 1 of the Environmental Protection Regulation defines 85 categories of Environmentally Relevant Activities (ERAs) for which an Environmental Authority must be obtained. ERAs that are most commonly found to have potential to cause the drainage and/or disturbance of ASS are:

1. aquaculture—particularly in the development of low-lying land, construction of ponds, and drainage of ponds for harvesting purposes;
19. dredging material<sup>33</sup>—when causing direct disturbance of ASS in the bed of a water, or when dredging has potential for draining ASS through dewatering or construction of drainage structures, and concentration of sulfidic fines through hydraulic separation;

<sup>29</sup> See section 549 of the EP Act.

<sup>30</sup> See section 548 of the EP Act.

<sup>31</sup> See section 63A of the EP Reg.

<sup>32</sup> See section 119 of the Fisheries Act. Note: when the Fisheries Act is 'rolled into' IPA it is expected that these codes will be converted to self-assessable IPA codes.

<sup>33</sup> Refer to the Operational Policy for ERA 19 for the definition of dredging (available at [www.epa.qld.gov.au](http://www.epa.qld.gov.au)).

20. extracting rock or other material—when causing direct disturbance of ASS, potential for draining ASS through dewatering or construction of drainage structures;
- 21C and 21D. mineral exploration and mining—such activities may involve the disturbance of coarse mineral pyrite (relatively low reactivity) as well as microscopic pyrite crystals and framboids found in ASS (relatively high reactivity);
22. screening etc. materials—an ERA to which ASS might enter as a process stream; concentration of pyritic fines could occur through hydraulic separation used in sizing, or separating material.

#### ASS Tip 12 – Mining activities

The EP Act says mining activities are ERAs<sup>34</sup>. Chapter 5 of the EP Act deals with Environmental Authorities for mining activities and defines mining activities in more detail<sup>35</sup>.

#### ASS Tip 13 – Extracting as defined under schedule 9 of the EP Regulation

Extracting rock or other material (ERA 20, EP Regulations) generally refers to activities where the extracted material is ‘won to obtain a source of’ rock or other material for sale or for constructing a civil engineering work (such as a dam wall, breakwater or foreshore revetment). However, ERA 20 also includes<sup>36</sup> the convenient extraction of rock or other material from land if:

- a) the primary purpose of the extraction is not to gain the material *and* greater than 1500 m<sup>3</sup> of materials is extracted; *or*
- b) the primary purpose of the extraction is not to gain the material *and* the surface area of the land is greater than 5200 m<sup>2</sup>.

#### ASS Tip 14 – Extraction, dredging and mining activities

The EP Act has recently been amended to enable the EPA to refuse the surrender of an Environmental Authority by a licence holder. The EPA will not approve the surrender of extraction, dredging and mining licences unless sites have been appropriately remediated including addressing any ASS issues remaining after extraction has been completed. Financial Assurances are already required for mining activities and will be phased in for extraction and dredging activities. Financial Assurances can be used to ensure that money is available for remediation works.

#### ASS Tip 15 – Operational policies and explanatory notes

ERAs, and other instruments under the EP Act have been further clarified and defined through Operational Policies that are prepared by the EPA. The latest Operational Policies can be accessed through the EPA web site. An existing Operational Policy for dredging (ERA 19) was updated in March 2003 and makes specific mention of some ASS issues relating to procedural aspects of the regulation of dredging in the bed of waters for smaller scale activities (<250 m<sup>3</sup>). The Explanatory Notes to various parts of the environmental legislation can also provide further clarification on ERAs, for example the Explanatory Notes for ERA 20 provided additional detail on what is included in and excluded from ERA 20.

There are a lot of activities that no longer trigger ERA 19. For example canals on surface water/dry land, traditional extractive industry, digging a dam, cut and fill activities. For further information relating to Operational Policy on ERA 19 see [www.epa.qld.gov.au](http://www.epa.qld.gov.au).

Some examples of other ERAs that may result in the disturbance of ASS if they are located in coastal lowland areas include: ERA 15—sewage treatment (eg. if installation of reticulation and pumping stations in low-lying coastal areas might disturb ASS); ERA 69—boat maintaining or repairing facility; ERA 71—port; and ERA 75—waste disposal (eg. in development of facilities in coastal locations). ERA 75 may also involve considering whether ASS might enter as a waste stream. Some landfills now have banded ASS treatment areas and use ASS treated with lime as daily cover.

<sup>34</sup> See section 18 of the EP Act.

<sup>35</sup> See section 147 of the EP Act.

<sup>36</sup> See “extracting” Schedule 9, *Environmental Protection Regulations 1998*.

Some waste disposal facilities involve ASS management issues by accepting ASS as a waste stream, or as a material to be treated at the contained waste disposal site. The treated material (if not otherwise contaminated) might then be exported for other uses, or used at the landfill site for daily cover. At least one facility in Queensland has been licensed as a waste disposal facility that accepts PASS (that meets particular criteria) that is then managed by strategic reburial.

Currently, an Environmental Authority must be held (in some cases along with a development approval for the ERA) to operate an ERA. Conditions for the operation of the ERA are included on the Environmental Authority or development approval for the activity. The *Environmental Protection Legislation Amendment Act 2003* (EPLA Act)<sup>37</sup> however, when commenced, will amend the EP Act so that all conditions and approvals associated with the ERAs are linked to development approvals through the integrated development assessment system (IDAS). The EPLA Act will also replace the requirement for the person carrying out an ERA to hold an Environmental Authority with the requirement for the operator to be a registered operator. The EPA (and its predecessors) has been conditioning ERAs since 1995. In 2001 *The Instructions for the Treatment and Management of ASS 2001* (the Instructions) was introduced as a conditioning tool, or a means of streamlining approvals processes, for certain activities. The Instructions drew together the experience of the previous six years of licensing by EPA and the experience and knowledge of the combined EPA, NR&M and DPIF in dealing with ASS management issues at the time. Numerous Environmental Authority/ERA development approvals now include conditions requiring compliance with the Instructions. The Instructions are used for the majority of applications. The other applications that are not adequately conditioned by the Instructions will fit in a category of being considered:

1. manageable by minor variations to the conditions in the Instructions (for example different verification testing rates);
2. manageable with major variations or largely site/project specific conditions to allow innovative approaches to ASS management to continue to develop (where appropriate risk management by such methods can be justified); or
3. unable to be acceptably managed by applying conditions.

Using the Instructions has greatly streamlined and achieved greater consistency in conditioning many ERA 19, 20 and 22 proposals. The Instructions are not legislation but form part of the procedural system used in administering the EP Act.

#### **ASS Tip 16 – The Instructions for the Treatment and Management of ASS**

The Environmental Protection Agency (EPA) in consultation with the Department of Primary Industries and Fisheries (DPIF) and the Department of Natural Resources and Mines (NR&M) prepared *Instructions for the Treatment and Management of Acid Sulfate Soils 2001* (the Instructions). The purpose of the Instructions is to streamline the process of applying conditions to approvals, permits and orders by placing emphasis on performance-based criteria for compliance. The Instructions provide examples of conditions that can be used for regulatory purposes under the EP Act and the Fisheries Act, or by other administering authorities. The Instructions also provide proponents with an indication of the minimum level of ASS treatment and management expected to achieve compliance with their legislative responsibilities during approval processes. The Instructions should not be confused with the *Soil Management Guidelines* of the Technical Manual. The *Soil Management Guidelines* are an information document that provides advice on how to achieve **best practice environmental management**.

<sup>37</sup> See Part 2 of the EPLA Act.

### **ASS Tip 17 – Conditions of Environmental Authorities and ASS**

The administering authority can impose conditions on Environmental Authorities that it considers necessary and desirable. A condition may be imposed even if it imposes an obligation that continues to apply after the licence has ended or ceased to have effect; for example, regarding rehabilitation of the land to which the licence relates.

A north Queensland extractive company was issued with an infringement notice for breach of licence because they repeatedly failed to meet water pH requirements of their licence.

A south-east Queensland extractive company was issued with an infringement notice for breach of licence because they did not undertake groundwater monitoring required under their licence. Their ponds contained acidified waters. In addition to paying the \$1500 infringement notice, the operator still had to implement the groundwater monitoring and address acidity in the ponds.

As an alternative to issuing an infringement notice (ticket) for a breach of licence condition, the administering authority could elect to prosecute for such a breach. The administering authority could also choose to issue an EPO to secure compliance with a condition of Environmental Authority or require a draft EM Program or Environmental Audit (Evaluation) if it is satisfied that a condition has been contravened. The administering authority looks at all the circumstances of the breach in deciding which is the appropriate action to take.

## **2.6 Environmental Protection (Water) Policy 1997**

The Environmental Protection Policy (EPP Water) sets out matters that administering authorities must consider when making an environmental management decision about an activity (among other things). It provides a framework<sup>38</sup> for:

- (a) identifying environmental values for Queensland waters; and
- (b) deciding and stating water quality guidelines and objectives to enhance or protect the environmental values; and
- (c) making consistent and equitable decisions about Queensland waters that promote efficient use of resources and *best practice environmental management*; and
- (d) involving the community through consultation and education, and promoting community responsibility.

This framework provides useful concepts to form the basis of any management plan that aims to protect Queensland waters.

The EPP Water defines ‘**environmental values**’<sup>39</sup> of waters to be protected, and ‘**indicators**’<sup>40</sup> of environmental values. These are important concepts for the management of ASS, because to determine appropriate management of waters that may be affected by ASS, the environmental values (and the indicators) to be protected relevant to the site and receiving environment must first be identified.

An **environmental value** for a water may include qualities such as the biological integrity of a pristine or modified aquatic ecosystem, suitability for recreational, industrial and or agricultural use and suitability for minimal treatment before supply as drinking water (among other things).

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<sup>38</sup> See section 6 of the EPP Water for how the purpose of the Policy is to be achieved.

<sup>39</sup> See section 7 of the EPP Water.

<sup>40</sup> See section 8 of the EPP Water.

## ASS Tip 18 – Some environmental values and how ASS might affect them

Biological integrity means the water's ability to support and maintain a balanced, integrative, adaptive community of organisms having a species composition, diversity and functional organisation comparable to that of the natural habitat of the locality in which the water is situated. For example: the intrinsic value of pristine or modified aquatic ecosystems; its ability to support associated wildlife; and/or its ability to produce food for human consumption. Some examples of how poor ASS management could result in damage to the biological integrity of a water include:

- causing the death, deterioration or reduced reproduction of organisms such as fish and invertebrates due to exposure to an acidic medium and toxic metal concentrations eg. aluminium;
- removing habitat by smothering sediments and changing the sediment characteristics needed by benthic dwelling organisms such as crabs and worms as iron floc settles out;
- changing habitat so that the naturally occurring species can no longer tolerate or compete in the environment eg. pH increases from neutralising agents could affect acid frog occurrences as more common frog species are able to move into the area;
- smothering of aquatic plants with metal precipitate so that they cannot photosynthesise as efficiently; and
- smothering of gilled creatures with metal precipitates so that they cannot respire.

The value of 'recreational use' means that the water can support primary or secondary contact or visual recreational use of the water. Iron staining from ASS leachate can be unsightly and damage visual recreational use of a water. It could be argued that very low pHs and high aluminium (and other metal concentrations) could damage the recreational usability of a water for primary and secondary contact recreation. If a secondary recreational use involves fishing the waters, then this may be impacted upon, if the biological integrity of the water has been affected.

The value of 'agricultural use' means the water can be used in carrying out an agricultural activity, such as irrigating crops, watering stock and farm water supply (other than drinking water). Very low pH water high in metals may not be suitable for irrigation of some crops due to the tolerance range of the crop, or if there is potential for metals to be taken up by edible parts of the crop posing health concerns eg. some root crops. Such waters may not be suitable for watering stock due to toxic qualities of some metals. Very acidic waters are likely to cause irritation to livestock that might drink them.

An **indicator** for an environmental value “is a property that is able to be measured or decided in a quantitative way” (see s8 EPP Water), for example the pH, electrical conductivity, dissolved oxygen. Monitoring indicators when managing waters enables the environmental manager to:

- audit the success or failure of management and/or remediation practices;
- trigger corrective measures based on the monitoring results; and
- assess the impact or *environmental harm* caused (if any).

The following documents are used to decide the indicators for an environmental value for a water:

- (a) site specific documents<sup>41</sup>;
- (b) the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* (known as the AWQ Guidelines throughout this document);
- (c) documents published by a recognised entity<sup>42</sup>.

Those documents are also used to establish the **water quality guidelines** for an environmental value for a water<sup>43</sup>. The water quality guidelines “which will protect all environmental values stated in the document” provide **water quality objectives** for a water if those objectives are not stated in Schedule 1 of the EPP Water.

The EPP Water also defines protocols, or procedures to be followed in making tests and measurements, taking samples, preserving and storing samples, performing analyses on samples,

<sup>41</sup> Site specific documents being documents that contain specific information about a water, or part of a water; and is recognised by the relevant administering authority as having appropriate scientific authority.

<sup>42</sup> Recognised entities being the EPA; or an environmental protection agency of the Commonwealth or a State; or ANZECC; or ARMCANZ; or the Government Chemical Laboratory; or the department in which the Water Act 2000 is administered; or the department in which the Fisheries Act 1994 is administered; or the United States Environmental Protection Agency or another environmental protection agency of a national government; or a cooperative research centre; or Commonwealth Scientific and Industrial Research Organisation; or an Australian University.

<sup>43</sup> See section 9 of the EPP Water.

performing statistical analyses of the results of sample analyses and interpreting the results<sup>44</sup>. The documents used to determine protocols for the purpose of the EPP Water are also defined under section 10<sup>45</sup>.

It is easy to get confused by similar terminology that has subtly different meanings under legislation. These terms should not be used interchangeably. Figure 2 should help to understand the difference between an environmental value and an environmental indicator, and the difference between a water quality guideline and a water quality objective. It should also make it clearer how these terms all fit together to provide a framework for the protection of waters.

<p style="text-align: center;"><b>Environmental Value</b></p> <p><b>What is it?</b> An environmental value is a value to be protected. For <u>Trinity Inlet</u> the environmental values are stated in document referenced in Schedule 1 of the EPP Water. For <u>other waters</u>: If the water is a <u>pristine water</u>—biological integrity of a pristine aquatic ecosystem; or If it is <u>not a pristine water</u>—biological integrity of a modified aquatic ecosystem; and suitability for recreational use; and suitability for minimal treatment before supply as drinking water; and suitability for agricultural use; and suitability for industrial use. <b>Where do you find it?</b> Section 7 of the EPP Water.</p>	<p style="text-align: center;"><b>Environmental Indicator</b></p> <p><b>What is it?</b> An environmental indicator is a <b>quantitative indicator of a value</b>. Examples include characteristics of a water that <b>can be quantitatively measured</b> such as any of the following:</p> <ul style="list-style-type: none"> <li>Any relevant physico-chemical indicator that can be measured eg. pH, turbidity, suspended solids, buffer capacity, titratable acidity, dissolved oxygen, iron and sulfate concentration.</li> <li>Diversity, frequency and distribution of a sea grass species (or another relevant organism) or species richness/biodiversity of a benthic invertebrate community.</li> </ul> <p><b>Where do you find it?</b> Measure it, map it, analyse for it, photograph it, record its presence/absence, etc.</p>
<p style="text-align: center;"><b>Water Quality Guideline</b></p> <p><b>What is it?</b> A water quality guideline is <b>the acceptable range or limit for an environmental indicator</b>. An example for the environmental indicator pH would be an acceptable range of pH 7.0 to 8.5. <b>Where do you find it?</b> A guideline might come from an existing document such as:</p> <ul style="list-style-type: none"> <li>a site specific document that the administering authority recognises as having appropriate scientific authority;</li> <li>the Water Quality Guidelines; or</li> <li>a document published by a recognised entity.</li> </ul>	<p style="text-align: center;"><b>Water Quality Objective</b></p> <p><b>What is it?</b> A water quality objective is <b>the set of water quality guidelines that will protect all environmental values</b>. Example objectives might be a list of guidelines like this hypothetical one:</p> <ul style="list-style-type: none"> <li>pH 7.0 to 8.5; DO &gt;6 mg/L; Turbidity &lt;10 NTU; no change to diversity, depth and spatial distribution of species x, y and z living in the receiving waters; and Fe concentration &lt;0.03 mg/L.</li> </ul> <p><b>Where do you find it?</b> An objective for a specific receiving water will probably not be found in one existing document unless it is listed in Schedule 1 of the EPP Water. For other waters, the objective relates to a variety of indicators and their guidelines and might be obtained from a variety of sources. They need to be put together to form an objective for the site-specific receiving waters you are looking at.</p>

**Figure 2.** Environmental values, environmental indicators, water quality guidelines and water quality objectives.

<sup>44</sup> See section 10 of the EPP Water.

<sup>45</sup> The *Water Quality Sampling Manual*, 3<sup>rd</sup> Edition, December 1999 published by the EPA; the AWQ Guidelines; Australian Standards; documents published by a recognised entity.

In preparing a management plan, this framework can be mirrored in the following way:

- first identify the **environmental values** of receiving waters that are to be protected;
- then, determine what **indicators** of those values may apply. Which of these indicators would be useful for managing risk and achieving appropriate release limits or impact levels determined using **water quality guidelines** and **water quality objectives**? If statutory approvals set discharge limits for some indicators, then they should also be treated as water quality objectives for the purpose of management planning;
- define the protocols to be used to monitor those indicators to achieve effective management to meet objectives.

With respect to *environmental harm*, it is important that appropriate indicators, representative of values are selected, to ensure protection of values can be achieved. It is also important that all aspects of a release that may cause harm be considered, for example concentration and load of a release, potential for bioaccumulation or local concentration of components of a release, etc. This might involve considering not only the concentration of iron being discharged from a site, but also the load being released over time to the receiving water as a result of the activity.

### **2.6.1 Water quality management considerations**

Once values, indicators, guidelines and objectives are established, it is time to determine how the site will be managed to meet the objectives or achieve the desired environmental outcomes. The EPP Water provides guidance to environmental decision makers on matters for consideration in assessing the management of activities. This guidance includes considering:

- waste management evaluation;
- waste water recycling;
- waste water releases on land and to surface water;
- stormwater management;
- direct and incidental waste water releases to groundwaters;
- construction of artificial wetlands for waste water treatment;
- use of natural biological controls in treatment of waste water; and
- ASS.

Other issues such as *best practice environmental management* and *general environmental duty* under the EP Act should also be considered in formulating a management plan.

Section 24 '**Acid sulfate soils**' of the EPP Water applies if an administering authority is making an environmental management decision about an activity involving the exposure or disturbance of ASS or the lowering of a watertable associated with ASS. Pursuant to that section, the administering authority must consider requiring the relevant person to implement appropriate management actions.

### **ASS Tip 19** – How is section 24 of the EPP Water used?

If the administering authority (EPA) is making an environmental management decision (see ASS Tip 7) such as whether to approve, and if so how to condition an Environmental Authority for an ERA (eg. dredging) that would involve exposing and disturbing ASS and/or the lowering of a watertable associated with ASS, then the EPA would ensure that associated management practices would include any of the actions listed under section 24 of the EPP Water that were warranted to protect the environment. Information supplied with an application would generally outline what ASS management actions were proposed. If the Environmental Authority was going to be granted, then the EPA would either condition that management using the document *Instructions for the Treatment and Management of ASS* and/or through site specific conditions based on the applicants submission as appropriate.

Similarly, if an EPO was being issued to address unlawful *environmental harm* being caused or threatened by an activity such as drain construction that was exposing and disturbing ASS and/or the lowering of a watertable associated with ASS, then requirements of the EPO would be consistent with s24 of the EPP Water (among other considerations).

## **2.7 Contaminated Land Provisions**

As questions are frequently asked about how contaminated land provisions might relate to ASS, it is worth mentioning that land consisting of *in situ* ASS is **not** in itself considered to be ‘contaminated land’ triggering registration on the environmental management register and other provisions specific to contaminated land<sup>46</sup>. Of course, ASS can become contaminated for the purpose of being treated as contaminated land, as can any other types of soils.

It is worth considering whether the presence of ASS may have bearing on the hazard and risk that ‘contaminated land’ poses to the environment and how it should be managed eg. acidified soils and acidified groundwater are likely to mobilise metal contaminants that might occur at a site.

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<sup>46</sup> See Chapter 7 Part 8 Contaminated Land of the EP Act.

## 3. COASTAL PROTECTION AND MANAGEMENT ACT 1995

### 3.1 Introduction

The following provides a brief summary of the provisions of the *Coastal Protection and Management Act 1995* (the Coastal Act) most likely to have relevance when dealing with ASS issues.

**Administering Authority:** Environmental Protection Agency (EPA).

**Jurisdiction:** Queensland.

**Availability:** The Coastal Act can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information on the Act is available from [www.epa.qld.gov.au](http://www.epa.qld.gov.au).

Some recently introduced sections of this Act have not commenced as at July 2004. Readers should ensure that the currency of the provisions are checked at the time of use.

The Coastal Act provides for an integrated process, which clearly articulates policy, planning requirements, development approval processes and enforcement actions for all coastal management resources.

The objects of the Coastal Act are to:

- (a) provide for the protection, conservation, rehabilitation and management of the coast, including its resources and biological diversity; and
- (b) have regard to the goal, core objectives and guiding principles of the National Strategy for Ecologically Sustainable Development in the use of the coastal zone; and
- (c) provide, in conjunction with other legislation, a coordinated and integrated management and administrative framework for the ecologically sustainable development of the coastal zone; and
- (d) encourage the enhancement of knowledge of coastal resources and the effect of human activities on the coastal zone.

Amendments to the Coastal Act now require the assessment of coastal development applications under the Integrated Development Assessment System (IDAS) within the IPA. Approvals similar to those previously required through the (now repealed) *Harbours Act 1995*, *Canals Act 1958*, and *Beach Protection Act 1968* are assessed by means of the coastal management criteria of the amended Coastal Act.

In general, the manner in which the Coastal Act addresses ASS is best considered in terms of planning requirements and development controls. These are summarised in the following sections.

### 3.2 Planning

The Coastal Act provides for the development of State and regional coastal management plans. The *State Coastal Management Plan – Queensland’s Coastal Policy (State Coastal Plan)* describes how the coastal zone of Queensland is to be managed. It has provided a State position on coastal zone planning since 17 September 2001; it has held the status of a statutory instrument and has the effect of a State Planning Policy under the IPA since 27 February 2002.

The State Coastal Plan primarily provides policy guidance in the:

- assessment of development in the coastal zone;
- preparation of regional coastal management plans;

- preparation of other planning documents in coastal areas by State and local government; and
- land management.

Policies under the State Coastal Plan are divided into ten broad topic areas, each stating coastal management outcomes, principles and policies. Actions from these are developed further in Regional Coastal Plans, local government planning schemes and through other processes such as assessment of development applications.

The most specific-ASS related policies are contained in the fourth topic area: Water Quality. The four broad Water Quality topic principles can be seen as motivators to appropriately manage ASS.

Water Quality policy 2.4.6 “Acid sulfate soils” of the State Coastal Plan focuses on activities and land management not covered by the ASS State Planning Policy and in summary:

- refers to the State Planning Policy dealing with development involving ASS;
- recommends that industry codes of practice are reviewed and updated on a regular basis to ensure that best practice management of ASS is reflected in the code; and
- encourages land managers conducting rural activities to implement current best practice management as outlined in the relevant industry code, and encourages a planned approach to disturbance and leachate management.

Note that the State Coastal Plan policy 2.4.6 is not focused on development assessment. The Government’s position in relation to development involving ASS and planning scheme preparation is specified in the SPP 2/02.

Water Quality policy 2.4.5 “Groundwater quality” of the State Coastal Plan also has specific relevance to ASS issues in that it states that “*Land uses and activities are not to lower the watertable to expose acid sulfate soils or ...*”. This policy is designed to prevent the exposure of *in situ* ASS to oxidising conditions and resultant acid production and metal mobilisation.

Direct reference is also made to ASS issues through policies in other topic areas. For example:

- Coastal Use and Development policy 2.1.4 “Canals and dry land marinas” cites diminished water quality from ASS disturbances (among other things) as a past adverse impact of such development in the policy context.
- Coastal Use and Development policies 2.1.6 “Extractive industry” and 2.1.8 “Dredging” both require that these activities be undertaken so as to:
  - maintain groundwater levels of underlying aquifers and coastal wetlands; and
  - maintain coastal habitats (including their protection from potential adverse impacts from the disturbance of ASS).
- Coastal Use and Development policy 2.1.11 “Rural land uses” states “*In managing land for rural land uses on the coasts, the following outcomes are sought:*” “... (e) agricultural drains and dams are constructed and managed so that no significant adverse effects on coastal resources and their values arise, in particular through the disturbance of acid sulfate soils (in accordance with policy 2.4.6)”.
- Coastal Use and Development policy 2.1.12 “Managing water resources” requires “*In developing water allocation policy in the coastal zone, consideration should be given to the risks of dewatering acid sulfate soils ...*”.
- Coastal Use and Development policy 2.1.14 “Aquaculture” states that “*Aquaculture on the coast will be located and undertaken in a manner that results in no significant adverse impacts on the coastal resources and their values. In particular, aquaculture will be undertaken so as to:*”... “(c) maintain groundwater levels and quality (in accordance with policy 2.4.5);” “(d) maintain coastal habitats, such as wetlands and shorebird roost sites, including their protection

*from potential significant adverse impacts from the disturbance of acid sulfate soil (refer to policy 2.4.6);”*

- Conserving Nature policy 2.8.2 “Coastal Wetlands” lists “*the appropriate management of acid sulfate soils*” as a matter relevant to the conservation and management of Queensland’s coastal wetlands.
- Conserving Nature policy 2.8.4 “Rehabilitation of coastal resources” requires that “*In undertaking rehabilitation of coastal resources, regard must be had to: “...(c) where acid sulfate soils have been disturbed, consideration should be given to identifying priority areas of acid soils and acid leachate, and to remediating these areas.”*”

Other policies may be indirectly linked to ASS issues through water quality issues, or potential to impact on other natural resources. This is particularly true for many of the Coastal Use and Development and Conserving Nature policies. It is foreseeable that policies designed to minimise saline intrusion of land and groundwater, and avoidance of ponded pastures in the coastal zone will need to be considered when determining the appropriate ASS management tools to use, however holistic management of all of these environmental issues is important.

The State Coastal Plan divides Queensland into eleven coastal regions: Gulf of Carpentaria, Torres Strait, Cardwell–Hinchinbrook, Whitsunday, Curtis, South-east Queensland, Cape York Peninsular, Wet Tropical, Dry Tropical, Capricorn and Wide Bay. Regional Coastal Management Plans (Regional Coastal Plans) will implement the State Coastal Plan and describe Queensland Government policy for how the coastal zone of a particular region is to be managed. Similar to the State Coastal Plan, Regional Coastal Plans will have the status of a statutory instrument and the effect of a State Planning Policy under the IPA.

As at July 2004, a number of draft regional coastal plans have been prepared and released for public exhibition and review. Preparatory work is continuing on the remaining regional coastal plans.

Coordinated Management policy 2.9.1 “Regional coastal management plans” provides a list of matters that will be considered in developing Regional Coastal Plans. These plans have the potential to identify specific ASS issues for a region and provide specific policy direction for land management on this issue. Regional Coastal Plans may identify areas that should be subject to management restrictions or regulations in terms of ASS issues for the protection of coastal resources, and identifying priority areas for rehabilitation.

### **3.3 Development Approval**

Amendments to the *Integrated Planning Regulation 1998* (IP Regulation) and a *Coastal Protection and Management Regulation 2003* (Coastal Regulation) gave regulatory effect to the Coastal Act. The IP Regulation specifies the types of development that ‘trigger’ the requirement for development approvals, the entities responsible for assessing the application and the matters that the entities consider in making their determination.

Coastal management districts are those areas where the EPA will be a concurrence agency or assessment manager for certain development applications. The regional coastal planning process is being used to identify these districts in addition to other planning outcomes. However, the Coastal Act establishes an interim district, which are the previous erosion prone areas and coastal management control districts identified under the now repealed *Beach Protection Act 1968*.

Developments that are assessed by the EPA under the Coastal Act include but are not limited to:

- construction of artificial waterways;
- making certain material changes of use of land;
- tidal works;

- dredging of material on State coastal land;
- disposal of dredge spoil and other materials in tidal waters;
- draining or allowing drainage or flow of water or other matter across State coastal land;
- reclaiming land under tidal water;
- construction of ponded pastures; and
- removing or interfering with coastal dunes.

For more information refer to the *Guideline on Assessable Development under the Coastal Act* (available from [www.epa.qld.gov.au](http://www.epa.qld.gov.au)). The Coastal Act will allow for the consideration of a wide range of issues in coming to a decision on the application and in making a determination on the appropriate development approval conditions. These issues may include the consideration of ASS issues associated with any development.

Note that the *Policy for Development and Use of Ponded Pastures, June 2001* has been given statutory effect through policy 2.1.11 *Rural land uses* of the State Coastal Plan.

#### **ASS Tip 20 – Ponded pasture policy**

Ponded pastures are pasture systems developed in the low-lying areas, to produce fodder for cattle grazing. They involve the construction of earth banks to impound water and the planting of grass species that have adapted to grow in these conditions. Ponded pastures in coastal areas can cause ASS to be exposed during construction.

A *Policy for Development and Use of Ponded Pastures June 2001* has been developed in Queensland to address the need for controls over the location, design and management of ponded pastures. The policy restricts the establishment of ponded pastures: from tidal areas; areas that are in or adjacent to natural wetlands; or areas of high conservation or fish habitat value. The policy also states '*The development of ponded pastures in other areas should only occur where proponents can demonstrate that there will be minimal and acceptable environmental impacts*'.

Under the policy, proponents need to demonstrate that the proposed ponded pasture complies with the principles of ecologically sustainable development. The disturbance of ASS is one of the issues that needs to be adequately addressed to ensure compliance with the assessment criteria of the policy. The construction of a bank or bund wall to create a ponded pasture on land became a regulated activity and is assessed through the IDAS with the commencement of the regulatory provisions of the Coastal Act on 20 October 2003.

#### **ASS Tip 21 – Marine Parks, the Great Barrier Reef and the Coastal Act**

The *Marine Parks Act 1981* (Qld) allows an area to be set apart and declared by regulation as a marine park in Queensland. A declared marine park covers all tidal waters and tidal lands (up to the highest astronomical tide) within the area; the subsoil beneath tidal land to a specified depth below the surface; the airspace above the area to a specified height; and all marine products within the set-apart area.

The Great Barrier Reef Marine Park is the largest and best-known marine park in Queensland (although a Commonwealth marine park) and is jointly managed by the Great Barrier Reef Marine Park Authority and the Queensland Parks and Wildlife Service. The *Great Barrier Reef Marine Park Act 1975* (C'th) established the Great Barrier Reef Marine Park and provides a framework for the planning and management of the marine park by zoning plans, plans of management and permits.

Acid sulfate soils are often located in and adjacent to the land and subsoil of marine parks. The protection of the water quality within marine parks from pollutants (eg. acid leachate released from the disturbance of an ASS) is a challenge for park management. Under the *Marine Parks Regulation 1990*, a person must not discharge or deposit waste (which includes acid leachate) in a marine park. Potential fines liable to a person who breaches this regulation extend up to \$7500. A person may also be liable under the EP Act for *environmental harm* from such a release.

The requirements of Marine Parks legislation are in addition to the requirements under the Coastal Act. Marine Parks are not included in IPA. Marine Parks are 'recognised sensitive marine areas'. Consequently, if someone wants to do works (such as excavations) within or adjoining a marine park they will be required to have a marine parks permit as well as approvals under the Coastal Act (through IPA and potentially under the EP Act).

## **4. FISHERIES ACT 1994**

### **4.1 Introduction**

The following provides a brief extract of the provisions of the *Fisheries Act 1994* (the Fisheries Act) most likely to have relevance when dealing with ASS treatment and management issues.

**Administering Authority:** Department of Primary Industries and Fisheries (DPIF).

**Jurisdiction:** Queensland waters including marine, estuarine and fresh waters.

**Availability:** The Fisheries Act can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information on the Act is available from [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au).

### **4.2 Value of Fish Habitats to the Fishing Industry and the Community**

Intertidal flats, sand bars, river banks, sand and gravel banks, freshwater and estuarine wetlands and tidal channels contribute to ecosystem biodiversity and provide many species with favourable environmental conditions to complete the different stages of their life cycles. Approximately 75% (by weight) of all seafood landed commercially in Queensland is derived from species dependent on estuarine habitats during part or all of their life cycle, although this figure may vary depending on estuary location. Due to the similarity in target species for each fishery, a high proportion of species targeted by the recreational and indigenous fishing sectors is also dependent on estuarine habitats during part or all of their life cycles.

### **4.3 Fisheries Impacts from Acid Sulfate Soils**

Fish habitats within many of Queensland's rivers, streams and estuaries have been altered due to the direct and indirect effects of agricultural and industry practices, pollution from point and non-point sources (eg. urban runoff and town sewage), stream regulation and water harvesting, channelisation (to regulate flows and to reduce flooding), and dredging and extractive activities. Acid sulfate soils often occur in areas that lie in or adjacent to sensitive fish habitats. Some major fish kills and red spot disease in fish have been clearly linked to ASS disturbance in Queensland and New South Wales leading to loss of income by the fishing, oystering and aquaculture industries.

### **4.4 Fisheries Act and Responsibilities**

The Fisheries Act and Fisheries Regulation 1995 provide for the “*management, use, development and protection of fisheries resources and fish habitats and the management of aquaculture activities, and for related purposes*”.

Fisheries resources and fish habitats are managed under the provisions of the Act, specifically, the protection of marine plants, the declaration of Fish Habitat Areas, the restoration of damaged or destroyed fish habitats and provisions for waterway barrier works and fish ways. The legislation provides for the granting of certain approvals to allow works to be undertaken within freshwater, intertidal and sub-tidal areas. Individual applications are assessed and decisions to issue approvals are based on the type of works proposed and related impacts on fisheries resources and fish habitats. Support may be given for proposals where impacts of such works are minimal; the works are for fisheries purposes and/or community benefit; and appropriate mitigation measures are carried out to counter any approved loss of fish habitats.

The DPIF is a joint signatory with EPA and NR&M to the *Memorandum of Understanding for the Provision of Consistent Advice on Coastal development Involving Acid Sulfate Soils*, and as such is

required to take note of the *Instructions for the Treatment and Management of Acid Sulfate Soils 2001* when conditioning development approvals. The integration of the Fisheries Act approvals with IPA will see DPIF gain a concurrence agency role for management of ASS involving fisheries approvals within the IDAS process.

Fisheries legislation does not specifically target ASS; however the purpose of the Act relates to ensuring ESD through the use, conservation and enhancement of shared community fisheries resources and fish habitats. The Act ensures that management of ASS via disturbance of marine plants and fish habitats is required. This is achieved through conditions on Fisheries Authorities, which require proponents to manage ASS (if relevant) in accordance with current **best practice environmental management** methods. While ASS are not assessed in great detail under the Fisheries Act, the general provisions of the EP Act still apply and in many cases a development approval is likely to be required.

In certain circumstances, ASS may be disturbed through inadvertent or illegal development activities in the coastal zone with deleterious effects on fish habitats either within a declared Fish Habitat Area or outside of a declared Fish Habitat Area. In these circumstances it may be possible to order restoration of the damaged fish habitat and/or fisheries resources through the issue of a restoration notice under Section 125 of the Fisheries Act. The notice can be issued in the instance where polluting matter such as litter, soil or a noxious substance (eg. acid leachate) is in waters, on marine plants or other fisheries resources, or in a fish habitat that:

- prevents fishing activities;
- has/had an adverse effect on the quality or productive capacity of a fishery or fish stocks; and/or
- has/had an adverse effect on the quality or integrity of a fish habitat.

#### **ASS Tip 22 – ASS, Restoration Notices and Court Orders**

Restoration notices and/or court orders involving ASS have been issued under the Fisheries Act in the following situations:

- In far north Queensland, a bund wall was placed across a tidal area, restricting tidal flow and exposing ASS that were previously under anoxic conditions. The ASS began to oxidise and released acid, iron and other heavy metals into the surrounding waterways. The mangroves on the previously saline side of the bund wall began to die.
- In south-east Queensland, a fish kill occurred in a tidal drain that had been blocked off. ASS were subsequently exposed and were also leaching into the drain.
- In south-east Queensland, in relation to excavation works which were undertaken to increase the height of a levee bank, ASS were exposed leading to destruction of marine plants and release of chronic acid run-off into the adjacent waterway and fish habitats.
- In south-central Queensland a private landholder decided to excavate an ornamental lake before seeking any advice or approvals and exposed large amounts of PASS and ASS in a sensitive intertidal habitat resulting in restoration costs at least 3 times higher than the cost of the original works.

There are many more cases that could have been included in this ASS Tip. Most relate to unauthorised digging in coastal areas or placing bunds or levees across tidal areas, or using inappropriate management.

For more legislative details on fish habitat restoration refer to sections 124 and 125 of the Fisheries Act and the Fish Habitat Management Operational Policy FHMOP009 (2002) *Restoration Notices for Fish Habitats: Formulation and Implementation*. This Policy outlines a nine-step process to guide Fisheries staff in the formulation, issuing and implementation of restoration notices. Communication and cooperation with NR&M and EPA officers in relation to ASS management is a key part of developing and implementing restoration plans.

## **4.5 Code of Practice**

The Fisheries Act also makes provisions for the Minister to approve codes of practice stating ways of achieving compliance with the Act. To date, four fish habitat codes of practice that deal with

ASS issues have been prepared under the provisions of Section 119 of the Fisheries Act. These codes have been developed to address the requirements of Section 51 of the Fisheries Act for the statutory protection of fish habitats and marine plants. A codified permitting system involving strategic permits and the relevant code of practice has been formulated as an alternative to issuing individual permits. The system relates to multiple sites and maintenance works only (except for the code of practice covering construction of new runnels). It is anticipated that under IPA, the fish habitat codes of practice may form the basis for IDAS codes.

#### **4.5.1 Cane growers drain maintenance**

The *Cane Growers On-farm Maintenance of Drains with Marine Plants: Fish Habitat Code of Practice for use with Strategic Permits issued under Section 51 of the Fisheries Act 1994* (FHCOP 003) caters for cane growers who may routinely disturb marine plants as a part of on-farm drain maintenance. Acid sulfate soils can be disturbed during such activities. This code of practice specifically deals with ASS for *Maintenance Activity Level 4 – works in drains (marine plants removal, de-silting, floodgate maintenance etc.)* and requires the cane grower to acknowledge the risk of ASS; conduct soil analysis, and ensure that the maximum level of excavation of drain depth does not intersect the sulfidic layer; neutralise the acidity within any disturbed soil; and maintain drains at a minimum, rather than maximum depth. The code of practice states “*Maintain the original drain profile. Wider and shallower drains are preferred as these reduce the energy within the drain and minimise the possibility of potential acid sulfate soil exposure*”. The code also makes reference to ASS for drainage sediment removal and requires sediment spoil to be treated.

#### **4.5.2 Runnelling, local government infrastructure and maintenance of powerlines**

Acid sulfate soils can be disturbed during mosquito control activities such as runnelling, particularly if the sulfides are located close to the soil surface. The code of practice for local governments and runnelling (FHCOP 002) states “*During runnel construction or maintenance works, ASS or PASS should be collected with an attached catcher for treatment and burial, or removed from tidal land. Lime should be added and mixed with a safety factor of 1.5–2 times the estimated lime requirement.*” These issues are then expanded in a section on runnel construction and maintenance works. The code also makes reference to ASS when determining site suitability for runnelling activities. For example, the code states that the site is unsuitable for runnelling if the soils are loam–loamy sands, with PASS present.

The remaining two codes (ie. local government and public infrastructure maintenance eg. bridges, boat ramps, boardwalks (FHCOP 001); and for the maintenance of powerlines and associated infrastructure (FHCOP 004)) contain similar provisions with respect to ASS identification and management. For more information about these codes, contact DPIF.

## 5. WATER ACT 2000

### 5.1 Introduction

The following provides a brief extract of the provisions of the *Water Act 2000* (the Water Act) most likely to have relevance when dealing with ASS treatment and management issues

**Administering Authority:** Department of Natural Resources and Mines.

**Jurisdiction:** Queensland waters.

**Availability:** The Water Act can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information on the Act is available from [www.nrm.qld.gov.au](http://www.nrm.qld.gov.au).

The Water Act provides for the sustainable management of water and other resources. Water means water in non-tidal areas (ie. every place upstream of the point to which the high spring tide ordinarily flows and reflows, whether due to a natural cause or to an artificial barrier) in a watercourse, lake or spring, underground water, overland flow water or water that has been collected in a dam. The Water Act also provides a regulatory framework for providing water and sewerage services and the establishment and operation of water authorities, and other purposes.

### 5.2 Riverine Protection Permits

Under the Water Act, a riverine permit is required to destroy vegetation, excavate or place fill in a watercourse, lake or spring. A watercourse means a river, creek or stream in which water flows permanently or intermittently; a lake includes a lagoon, swamp or other natural collection of water, whether permanent or intermittent, and the bed and banks and any other element confining or containing the water; a spring means the land to which water rises naturally from below the ground and the land over which the water then flows<sup>47</sup>. Acid sulfate soils can sometimes be found within lakes or springs in low-lying coastal areas. Consequently, destroying vegetation, excavating within or placing fill within a lake or spring may disturb ASS.

Various factors are considered as part of the assessment process for riverine protection permits, including:

- the effects of the activity on water quality;
- whether and to what extent the activity may have an adverse effect on the physical integrity of the watercourse, lake or spring; and
- the implications of granting the permit for the long-term sustainable use of the river systems of Australia, and especially the cumulative effect of granting the application and likely similar applications.

Riverine protection permits can be amended, cancelled or immediately suspended if it becomes evident that any adverse effect of the permitted activity on the physical integrity of the watercourse, lake or spring is greater than was anticipated when the permit was issued.

To date, no riverine protection permits have been refused because of ASS, or conditioned to manage ASS. This however does not negate the need to manage ASS and comply with the *general environmental duty* under the EP Act. In the past, ASS issues have been managed separately under regulations of the IPA, SPP 2/02 and EP Act.

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<sup>47</sup> See the Water Act for the complete definition of a watercourse, lake and spring.

### **ASS Tip 23 – Springs, lakes and ERA 19**

Determinations by NR&M as to whether low lying coastal areas are ‘springs’ or ‘lakes’ as defined by the Water Act have been used by the EPA to assess whether ERA 19 is applicable to certain development applications. ERA 19 is applicable if the application entails dredging within the bed of any waters eg. a spring or lake defined under the Water Act. The development applications that involved springs or lakes in ASS areas were conditioned using the Instructions. It is worth noting that the definition of ‘water’ under the EP Act is considerably broader than that under the Water Act and that both pieces of legislation should be considered independently.

### **ASS Tip 24 – Irrigation from shallow aquifers and ASS**

Under the Water Act, non-flowing groundwater resources can be regulated as ‘declared subartesian areas’ eg. the Bundaberg Declared Groundwater Area (DGA). Acid sulfate soils are known to occur in the soils of the shallow aquifers within the Bundaberg DGA, particularly at Moore Park. Irrigation from shallow aquifers in these areas can result in the oxidation of ASS when the groundwater table is lowered. At Moore Park, groundwater is mainly used to irrigate sugar cane (which can tolerate reasonably acidic waters). The NR&M has imposed an administrative hold on licensing new groundwater bores in the DGA from February 1998. The Department is currently further considering this issue.

In parts of Western Australia where the pyrite is associated with arsenic, some of the shallow aquifers have been contaminated with arsenic as a result of disturbance of ASS after the groundwater table has been lowered due to groundwater extraction. The deeper aquifers of WA provide the water supply for the greater Perth area. The Western Australian Government now restricts any use of bores within the shallow aquifer system.

In many coastal urban and rural environments extraction from shallow aquifers in ASS is largely unregulated by either State or local government. Groundwater extraction and disturbance of ASS in urban areas can often be identified by the characteristic iron splash marks on driveways and buildings that have been hosed with the iron-rich, acidic water.

## 6. VEGETATION MANAGEMENT ACT 1999

### 6.1 Introduction

The following section provides a summary of the provisions for the regulation of vegetation clearing in Queensland. Vegetation clearing can impact on ASS by altering the hydrology, potentially draining previously saturated soils, and physically disturbing ASS—all of which can mobilise acid and heavy metals. The *Vegetation Management Act 1999* (VMA) regulates tree clearing on all land tenures in Queensland. Clearing of vegetation is assessable development under the IPA. Applications to clear are processed under the Integrated Development Assessment System (IDAS) in IPA.

**Administering Authority:** Department of Natural Resources and Mines.

**Jurisdiction:** Queensland.

**Availability:** The VMA and IPA can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information about the vegetation management framework is available from [www.nrm.qld.gov.au/vegetation](http://www.nrm.qld.gov.au/vegetation).

The purpose of the VMA is to regulate the clearing of vegetation in a way that:

- conserves remnant endangered, of concern and not of concern regional ecosystems;
- conserves vegetation in declared areas<sup>48</sup>;
- ensures that clearing of vegetation does not cause land degradation;
- prevents the loss of biodiversity;
- maintains ecological processes;
- manages the environmental effects of clearing to achieve the above purposes; and
- reduces greenhouse gas emissions.

The legislative framework contains the VMA, the *Vegetation Management Regulation 2000*, the State Policy for Vegetation Management and regional vegetation management codes.

#### ASS Tip 25 – Other vegetation management legislation

There are a variety of other pieces of legislation that are applicable to vegetation management in Queensland eg. *Forestry Act 1959*, *Water Act*, *Nature Conservation Act 1992*, *Fisheries Act*, *Transport Infrastructure Act 1994*, *Electricity Act 1994*, *Rural Lands Protection Act 1998* etc.

While ASS may be encountered when clearing vegetation under these Acts, they have not been specifically mentioned. This does not negate the need to manage ASS and comply with the **general environmental duty** under the EP Act (see section 2.3 of this guide).

### 6.2 State Policy for Vegetation Management

Under the VMA, the Minister has prepared the *State Policy for Vegetation Management, May 2004*, which sets out the principles and outcomes for vegetation management across the State. The purpose of the policy is to regulate the clearing of vegetation through codes that take account of regional natural resource diversity within a consistent stateside framework.

### 6.3 Regional Vegetation Management Codes

Applications for vegetation clearing are assessed against regional vegetation management codes. The code regions are based on the bioregions of Queensland and each region has one code that will

<sup>48</sup> See sections 16 to 19 of VMA.

be used to assess applications for broadscale clearing under the ballot and another code for ongoing clearing purposes (eg. weed control, fodder and thinning). Currently, there are 24 regional codes for ongoing clearing purposes covering the State and 23 codes for broadscale clearing; it should be noted that Cape York is not available for broadscale clearing. The codes are available from [www.nrm.qld.gov.au/vegetation/regional\\_codes.html](http://www.nrm.qld.gov.au/vegetation/regional_codes.html).

Codes contain a range of performance requirements that are consistent with meeting the purpose of the VMA. An applicant must demonstrate how each performance requirement is met, either by achieving the acceptable solution or by providing an alternative solution. For regions where acid sulfate soils occur, codes contain regionally relevant performance requirements and acceptable solutions relating to ASS.

## **6.4 Declared Areas**

The Minister may declare an area to be either:

- an area of high nature conservation value; or
- an area vulnerable to land degradation.

An area vulnerable to land degradation can be declared if the area is subject to one or more of the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity, whether inside or outside the area;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability;
- (f) a process that results in declining water quality.

Inappropriate management of ASS could be thought of as a process that results in declining water quality.

A separate regional vegetation management code must be prepared for a declared area.

## **6.5 Property Vegetation Management Plans**

An applicant is required to prepare a Property Vegetation Management Plan (PVMP) when applying to clear vegetation. These plans must show areas of land degradation, which may include areas of ASS on a property. The PVMP must include measures to prevent land degradation during and after clearing.

## 7. INTEGRATED PLANNING ACT 1997

### 7.1 Introduction

The following section provides a brief summary of the provisions of the *Integrated Planning Act 1997* (IPA) most likely to have relevance when dealing with plan making and development assessment.

**Administering Authority:** Department of Local Government, Planning, Sport and Recreation (DLGPSR).

**Jurisdiction:** Queensland.

**Availability:** The IPA can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint at 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information about the Act is available from [www.ipa.qld.gov.au](http://www.ipa.qld.gov.au) and [www.dlgp.qld.gov.au](http://www.dlgp.qld.gov.au).

The IPA contains an over-arching goal of seeking to achieve ‘ecological sustainability’. Ecological sustainability is described in IPA (s1.3.3) as the balance that integrates ie. “...(a) *protection of ecological processes and natural systems at local, regional, State and wider levels; and (b) economic development; and (c) maintenance of the cultural, economic, physical and social wellbeing of people and communities.*”

The main elements of this framework include:

- one system for all development-related assessments by local and State governments: called the integrated development assessment system (IDAS);
- local government planning schemes as the main instrument for planning and development assessment;
- State planning policies;
- regional planning;
- infrastructure planning; and
- private certification.

### 7.2 Integrated Development Assessment System

IDAS is the step-by-step process for lodging, assessing and deciding development applications. IDAS is intended to combine local government planning, many State planning and State licencing approval processes into the one process.

Local governments generally administer the assessment of IDAS applications. However, a State Government agency may have responsibility to assess certain aspects of an application (eg. Department of Main Roads in relation to the impacts of a development on a State-controlled road). NR&M is an ‘advice agency’ for development applications that have the potential to disturb significant amounts of ASS. The *Integrated Planning Regulation 1998* specifies the types of development and the levels of disturbance that will trigger referral. The Regulation also sets out the ‘referral status’ of an agency (ie. whether it is a concurrence agency or an advice agency) and also the extent of an agency’s jurisdiction over an application. In other instances development applications may be required to be lodged directly with a State Government agency (eg. where an application is for the clearing of native vegetation only).

### **ASS Tip 26 – ASS referrals for IDAS**

Under IDAS, a variety of referrals may be triggered when ASS are involved. For example, when local government is the assessment manager for:

- assessable development where 100–1000 m<sup>3</sup> of ASS is to be disturbed; or filling using 500–1000 m<sup>3</sup> of material—no referral to NR&M required (under IPA);
- assessable development<sup>49</sup> where  $\geq 1000$  m<sup>3</sup> of material<sup>50</sup> is to be disturbed or filled—NR&M as advice agency (under IPA);
- a development permit for an environmentally relevant activity (eg. dredging) required—EPA as concurrence agency (under the EP Act);
- building works seaward of a coastal building line—EPA as concurrence agency (under the Coastal Act);
- taking or interfering with water—NR&M as concurrence agency (under the Water Act);
- undertaking works in freshwater, intertidal and sub-tidal areas requiring a fisheries permit—DPIF as concurrence agency (under the Fisheries Act).

*Note: Other referrals may also be relevant for ASS and IDAS, but the above referrals can be based largely on ASS-related issues.*

Under IPA, development is defined as:

- carrying out building work;
- carrying out plumbing work;
- carrying out operational work;
- reconfiguring a lot; or
- making a material change of use of premises.

The implications of disturbing ASS should be considered early in the development process. For example, ASS need to be considered at the ‘material change of use’ stage to assess whether the ASS can actually be appropriately and economically managed eg. the location of earthworks may need to be relocated or areas totally avoided.

### **ASS Tip 27 – It’s never too late to consider your ASS**

The waterways to be constructed at a previously approved older development site in south-east Queensland were recently realigned to avoid and minimise the disturbance of ‘hot spot’ areas of ASS. The basis of the realignment was a second phase extensive drilling program and soil risk analysis. The realignment triggered an amendment to the Structure Plan and therefore required separate approvals from the State and local government under the Land Act and the IPA. A beneficial consequence of the realignment was a higher yield of better quality fill, and reduced ASS management expenses.

The IDAS system is provided for in Chapter 3 of IPA. It contains four important stages:

- the application stage;
- the information and referral stage;
- the public notification stage (in respect of impact assessable applications); and
- the decision stage.

Appeal rights are provided to applicants and persons who make submissions about an impact assessable application, that appeal being to the Queensland Planning and Environment Court or to a Queensland Building and Development Tribunal (although at present the role of the Tribunal is limited).

Public involvement and scrutiny are key elements of the impact assessment process, enabling any interested party the right to make a ‘submission’ (eg. objection or support) about an application.

<sup>49</sup> Assessable development to which SPP 2/02 applies.

<sup>50</sup> Only where the material is located less than 5 m AHD and where the surface height is less than 20 m AHD.

IPA prescribes the material and matters which must be considered when assessing an application for development approval. That approval is given by way of a development permit, which can (and usually is) issued subject to conditions. Those conditions are imposed by the assessment manager perhaps upon request by a referral agency which has ‘concurrence’ status.

IPA also provides that a ‘preliminary approval’ may be given in respect of a development, whereby development is approved in principle, but is not permitted to proceed until a development permit is issued. Among other things, this enables development to be carried out in a master planned way.

#### **ASS Tip 28 – Preliminary approval and ASS**

Applying for preliminary approval, as opposed to a development permit, should not remove or defer the consideration of ASS issues. All development applications should be accompanied by a thorough ASS investigation that complies with current standards. Acid sulfate soils are not the type of problem where ‘recipe book’ management strategies can be applied at every site. The distribution of ASS and associated risks on a particular site may be highly variable. In these situations, management plans may need to be adapted based on the results of the initial and subsequent investigations to deal with the particular distribution and risks that have been established. No standard management recipe will apply at every site and thorough investigations should be conducted early in the lifespan of a project.

Development can be nominated as one of the following:

- exempt, which does not require a development permit;
- self assessable, which does not require a development permit, but must comply with applicable codes;
- assessable, which may be code assessable or impact assessable. A particular development may contain elements which are both impact assessable and code assessable.

This development ‘status’ can be set by IPA, the IPA Regulation, or a planning scheme. Where the development status has been set by Schedule 8 under the IPA, a planning scheme cannot change this status and, to the extent it purports to do so, it is inoperative.

In the IDAS process, ASS are a relevant consideration against State Planning Policy 2/02 and any relevant codes in the planning scheme. A decision about an impact assessable development application must not compromise the desired environmental outcomes for the planning scheme area. It is also important to note that where development has ‘self-assessable’ status it still must comply with applicable codes. Where code assessable development does not comply with applicable codes, the application must be refused unless compliance can be achieved by imposing conditions (see s 3.5.13 of IPA and the decision of the Court of Appeal in *Reservilt v Maroochy Shire Council* [2002] QCA 367).

The *Integrated Planning and Other Legislation Amendment Act 2003* (IPOLAA), has in effect reintroduced environmental impact assessment (EIA) for certain prescribed developments and locations. As at July 2004, this provision had not commenced. The EIA process will typically require assessment of the potential impacts associated with the disturbance of ASS. The introduction of the EIA process is required by the State’s intention to enter into a bilateral agreement with the Commonwealth to achieve accreditation of the State’s assessment processes for the purposes of the EPBC Act.

There are several other uncommenced amendments to IPA introduced by IPOLAA; however these are the principal relevant changes for the purposes of this section.

### 7.3 IPA Planning Schemes

Planning schemes are prepared by local government to manage development in their local government area. Schemes also integrate State, regional and local development strategies and recommendations for the local government area.

An IPA planning scheme:

- outlines the development outcomes sought for the local government area as a whole and for particular localities;
- assigns land for different uses, including residential growth areas, having regard to a range of considerations;
- indicates the location and nature of major infrastructure proposed to be provided;
- identifies areas or places that constrain the use of land due to their environmental value or their adverse effects on development;
- identifies the kind of development that requires approval (assessable development) or that can be carried out without approval if certain requirements are met (self-assessable development); and
- specifies the requirements for assessing the suitability of a development proposal.

#### ASS Tip 29 – Rolling in to IPA

Several Acts have been amended so that they are compatible with IDAS and can be ‘rolled in’ to IPA. An Act is considered to have been ‘rolled in’ when it has been mentioned as a referral trigger in the IP Regulation. Once the legislation is rolled in to IPA, approvals and permits are then issued under IPA through the IDAS process, rather than as a separate approval process. The relevant State agency then becomes a referral agency for that specific issue.

Legislation that has been rolled in includes:

- the EP Act;
- the Coastal Act;
- the Water Act; and
- the Transport Infrastructure Act.

### 7.4 State Planning Policies

State Planning Policies (SPPs) are a mechanism for State Government to clearly identify interest in development-related matters in both IDAS and when making and amending planning schemes so that the State requirements can be incorporated with those of local governments. A State Planning Policy is a statutory instrument under the *Statutory Instruments Act 1992* and has the force of law. The SPP specific to ASS is State Planning Policy 2/02: *Planning and Managing Development Involving Acid Sulfate Soils* (SPP 2/02) and comes with its associated guideline (see section 9 of this Guide). The State Coastal Management Plan has the status and effect of an SPP, and also deals with ASS (see section 5 of this Guide).

### 7.5 Infrastructure Planning

Well-planned and coordinated infrastructure is fundamental to the economic and social well being of a community. The IPA therefore requires that infrastructure be addressed as a ‘core matter’ in planning schemes.

Local governments’ planning for infrastructure in areas containing ASS should take into account the potential long-term costs that may be associated with having to replace that infrastructure years before the expected date due to integrity failure, if the soils are not treated appropriately at the time of placement.

#### ASS Tip 30 – ASS and infrastructure planning

In a coastal shire of south-east Queensland, Council recently replaced the rising sewer main only 20 years after installation. The main had been placed in untreated actual ASS and was heavily corroded and pitted. Untreated sewage had been leaking from the pipe in the vicinity of a caravan park and a Fish Habitat Area.

Similar threats can be posed for oil and gas pipelines, water lines, telephone and electricity infrastructure if the surrounding soils are not treated properly at the time of placement.

**ASS Tip 31 – ASS and Local Government Act**

Local laws can be made under the *Local Government Act 1993* (Qld). These can be used to regulate activities disturbing ASS such as filling and excavation works, extractive industry and vegetation clearing. However they cannot duplicate the development assessment process under IPA.

## 8. STATE DEVELOPMENT AND PUBLIC WORKS ORGANISATION ACT 1971

### 8.1 Introduction

The following section provides a brief summary of the provisions of the *State Development and Public Works Organisation Act 1971* (State Development Act) most likely to have relevance when dealing with impact assessment and ASS. The purpose of the State Development Act as it relates to this chapter of the **Queensland Acid Sulfate Soil Technical Manual** is to provide for a coordinated system for environmental assessment of 'significant projects', which are called in by the Coordinator-General of the Department of State Development and Innovation as matters of State interest. ASS have been encountered during the impact assessment process under this Act at a number of sites, including a prawn farm and fish hatchery development in central Queensland, a convention centre in south-east Queensland, and a marina development in central Queensland.

**Administering Authority:** Department of State Development and Innovation.

**Jurisdiction:** Queensland.

**Availability:** The State Development Act can be downloaded from [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au). Hard copies are available from Goprint, 371 Vulture Street Woolloongabba; phone: 1800 679 778; [www.goprint.qld.gov.au](http://www.goprint.qld.gov.au). Further information on the Act is available from [www.sd.qld.gov.au](http://www.sd.qld.gov.au).

### 8.2 Coordination of Environmental Assessment

The following outlines the stages involved in the coordination of environmental assessment under the State Development Act:

#### *Stage 1: Declaration*

The Coordinator-General may declare a project to be significant and must notify the decision in the Government Gazette. In declaring a project to be significant, regard must be had to the following factors:

- project's potential effect on relevant infrastructure;
- employment opportunities that will be provided by the project;
- the potential environmental effects of the project;
- level of investment necessary for the proponent to carry out the project;
- strategic significance of the project to the locality, region or the State; and
- the complexity of local, State or Commonwealth requirements for the project.

For such 'significant projects', an environmental impact assessment (EIA) will be required. *Note: the EIA can include the final production of an Environmental Impact Statement (EIS), but it is not limited to an EIS.*

#### *Stage 2: Public notification of Requirement for the EIA*

The Coordinator-General must advise the proponent that an EIA is required, notify the public accordingly and make available draft/final terms of reference (ToR) for public comment. In coastal areas below 5 m AHD, the ToR would typically contain a requirement to conduct an ASS investigation and submit a management plan for any ASS that may be disturbed.

#### *Stage 3: Terms of Reference issued*

In finalising the ToR, the Coordinator-General must have regard to the comments received on the draft ToR.

#### *Stage 4: Preparation of EIS*

The Coordinator-General may refer details of the project, the initial advice statement and the ToR and EIA to any entity for specialist advice eg. to NR&M and EPA with respect to the assessment and management of ASS. The proponent must prepare the EIA to the satisfaction of the Coordinator-General having regard to the ToR.

#### *Stage 5: Submission period*

Public submissions are invited on the draft EIA. All properly made submissions must be accepted.

#### *Stage 6. Coordinator-General's Report*

The Coordinator-General must consider the EIA, along with all properly made submissions and any other material considered relevant to the project. Additional information may be sought. The Coordinator-General must prepare an evaluation report and provide a copy to the applicant, who has an opportunity to respond. Parties that have significant issues to which the applicant responds are again invited to consider such responses. When finalised, the Coordinator-General's report becomes the whole-of-Government response, which must be considered by bodies assessing the application under the IPA. The Coordinator-General's report becomes the *only* concurrence agency response for any current or future IDAS applications that relate to the proposal. For permits that are outside the IDAS process, the Coordinator-General's report is an advisory report that has no statutory weight.

### **8.3 Relevance to IPA**

When development approval under IDAS of the IPA is required, the Coordinator-General is responsible for processing the information, referral and notification stages. As stated above, the Coordinator-General effectively becomes the only concurrence agency for any current or future IDAS applications pertaining to the proposal. Consequently the assessment manager must incorporate the recommendations of the Coordinator-General into any decision (eg. if the Coordinator-General recommends refusal then the assessment manager must refuse; or if the Coordinator-General recommends approval with conditions then the assessment manager must include any recommended conditions in the final approval). However, the relationship of the Coordinator-General's report to any IDAS application does not limit the ability of the assessment manager to place conditions on the approval that are more stringent than those recommended by the Coordinator-General.

#### **ASS Tip 32** – How does the State Development Act relate to IPA?

There are four stages in IDAS: Stage 1 (application lodgement), Stage 2 (information and referral), Stage 3 (public notification) and Stage 4 (decision).

Under the State Development Act, Stage 1 of the process remains the same. Stages 2 and 3 of IDAS are replaced by the Coordinator-General's requirements for an EIA (including public notification) and the Coordinator-General's advice to the assessment manager following the review of that EIS. Stage 4 remains the same, except that the assessment manager must consider the advice of the Coordinator-General as the only concurrence agency comments. Under this act, all agencies or departments that would otherwise be a concurrence agency for an IDAS application associated with the proposal lose their concurrence agency role for those applications.

There can be no third party appeals to the Planning and Environment Court relating to the decision.

## 9. STATE PLANNING POLICY 2/02

### 9.1 Introduction

*State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soils* (SPP 2/02) is a statutory instrument, and has effect under IPA when certain development applications are assessed under IDAS, when planning schemes are made or amended, and when land is designated for community infrastructure.

**Administering Authority:** Local Government with referral to the Department of Natural Resources, Mines and Energy (NR&M) for disturbances  $\geq 1000 \text{ m}^3$  under certain circumstances<sup>51</sup>.

**Jurisdiction:** Queensland.

**Availability:** The SPP 2/02 can be downloaded from [www.ipa.qld.gov.au](http://www.ipa.qld.gov.au). Hard copies are available from NR&M, Block C, 80 Meiers Road, Indooroopilly, phone 07 3896 9782 and the central office of Land & Regional Planning, NR&M, Level 7, 41 George Street Brisbane. Further information about the SPP 2/02 is available from [www.nrm.qld.gov.au/land/ass](http://www.nrm.qld.gov.au/land/ass).

The SPP 2/02 sets out the State's interest concerning development involving ASS in low-lying coastal areas, and commenced on 18<sup>th</sup> November 2002. The SPP states "*The Queensland government considers that development involving acid sulfate soils in low-lying coastal areas should be planned and managed to avoid potential adverse effects on the natural and built environment (including infrastructure) and human health.*"

### 9.2 When does the SPP 2/02 Apply?

The SPP applies to all land, soil or sediment below 5 m Australian Height Datum (AHD) where the natural ground level is less than 20 m AHD. It assumes that all land, soil and sediment to which the SPP applies may contain ASS, unless site-specific information is available confirming the contrary. It applies to 42 coastal shires (listed in Annex 1 of the SPP 2/02) and is relevant to development involving:

- excavating or otherwise removing  $100 \text{ m}^3$  or more of soil or sediment; or
- filling of land involving  $500 \text{ m}^3$  or more of material with an average depth of 0.5 of a metre or greater.

In the local governments to which SPP 2/02 applies, the policy applies to assessable development, except building work only assessable under the *Standard Building Regulation* in the following ways:

1. *IPA Planning Schemes:* Where an IPA planning scheme is in force, the assessment manager must have regard to SPP 2/02 when assessing development applications under IDAS.
2. *Transitional Planning Schemes:* Where a transitional planning scheme is in force, the assessment manager must have regard to SPP 2/02 when assessing development applications requiring a development approval under the planning scheme.

Developments to which the SPP is likely to apply include tourist resorts, canal estates, artificial waterway constructions, extractive industries, waterfront activities, golf courses, marinas, service stations, uses with below-ground car parking, storage or major infrastructure.

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<sup>51</sup> See ASS Tip 26 for details when applications are referred to NR&M.

### ASS Tip 33 – SPP 2/02 and existing lawful uses

Existing lawful uses (eg. management practices for agriculture such as maintaining drains for sugarcane production; excessive groundwater drawdown from bores in ASS areas; extractive industry given development approval without adequate consideration of ASS) are deemed to be ‘as of right’ under IPA. ‘As of right’ uses are not directly influenced by the SPP 2/02<sup>52</sup>, but all such activities still need to be managed to ensure that the proponent complies with their *general environmental duty* (see section 2.3 of this Guide).

## 9.3 Outcomes of the SPP 2/02

The SPP 2/02 lists two outcome statements that are documented in the following figure.

### Outcome 1

When undertaking development to which this SPP applies, the release of acid and associated metal contaminants into the environment is avoided by:

- not disturbing ASS when excavating or otherwise removing soil or sediment, extracting groundwater or filling land; or
- treating and, if required, undertaking ongoing management of any disturbed and drainage waters.

### Outcome 2

For each local government identified in Annex 1 of the SPP, the planning scheme:

- identifies areas with a high probability of containing ASS;
- contains planning strategies that, as far as practicable, give preference to land uses that will avoid or minimise the disturbance of ASS;
- contains detailed measures, that:
  - a) include a code(s) designed to achieve development outcomes that are consistent with Section 5; and
  - b) ensure that development to which this SPP applies is assessable against that planning scheme code(s).

The planning scheme or planning scheme policy(s) specifies the information expected to be submitted with development applications subject to the code(s).

**Figure 3.** Outcomes 1 and 2 of the SPP 2/02.

### ASS Tip 34 – SPP 2/02 and groundwater management

The SPP 2/02 does not contain a specific trigger for lowering of the groundwater, but this does not negate the need for appropriate groundwater management. Outcome 1 of the SPP specifically makes reference to avoiding the release of acid and associated metal contaminants into the environment by not disturbing ASS when extracting groundwater.

When development applications are assessed against SPP 2/02 or land is being designated for community infrastructure, regard must be had to Outcome 1 (as well as the remainder of Section 5 of the SPP). The SPP applies to all development applications requiring development approval under a planning scheme except building work only assessable under the *Standard Building Regulation 1993*.

### ASS Tip 35 – SPP 2/02 responsibilities

SPP 2/02 is triggered for works involving excavating or otherwise removing  $\geq 100 \text{ m}^3$  of soils or sediment; or filling  $\geq 500 \text{ m}^3$  at greater than an average depth of 0.5 m.

NR&M is an advice agency for certain development (see ASS Tip 26). Referral is required for both code and impact assessable development.

Disturbances  $< 1000 \text{ m}^3$  (excavation or filling) are assessed by local government. Disturbances  $> 1000 \text{ m}^3$  are assessed by local government with advice from NR&M.

Disturbances of  $< 100 \text{ m}^3$  or filling  $< 500 \text{ m}^3$  do not trigger the SPP 2/02. These disturbances still need to be managed to ensure that the proponent complies with their *general environmental duty* (see section 2.3 of this Guide).

<sup>52</sup> The Policy itself does not make development assessable. It can only apply to development that is already assessable development by either Schedule 8 of the IPA or by planning schemes. For development such as agricultural drainage, it is possible for planning schemes to make significant operational works such as drainage works, assessable development.

The SPP 2/02 is supported by the *State Planning Policy 2/02 Guideline: Acid Sulfate Soils* (SPP Guideline). The SPP Guideline provides advice on how the development and planning outcomes of the SPP can be achieved. The Guideline is divided into two main parts.

Part A gives guidance on the implementation of SPP 2/02 in development assessment and how local government should appropriately reflect the SPP in their planning schemes under IPA including advice on preparing ASS code(s) and making development assessable.

Part B gives general guidance on the level of investigation required to support a development application and on defining the level of treatment required should ASS be disturbed. Sections 1 and 2 deal with investigations and Sections 3 and 4 deal with management. Further information that is relevant to each section is included in appendices. The information contained in Part B and appendices is not technically exhaustive and therefore should be used in consultation with more detailed information.

#### **ASS Tip 36 – Queensland ASS Sampling Guidelines**

The *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland* (Ahern *et al.* 1998) (commonly referred to as the ‘Sampling Guidelines’) are relevant to all disturbances of ASS. This includes urban, tourist and recreational development, extractive industry, mining, ports, roads, infrastructure, agriculture, aquaculture, golf courses, and maintenance and navigational dredging. The Sampling Guidelines are universally applicable and exemption should not be sought.

## **9.4 SPP 2/02 and Planning Schemes**

The SPP 2/02 must be appropriately reflected in planning schemes. The planning scheme must identify areas with a high probability of containing ASS, contain planning strategies that, as far as practicable, give preference to land uses that will avoid or minimise the disturbance of ASS and include a code(s) against which to assess developments with the potential to disturb ASS. It must also show at least the 5 m and 20 m contours. In places where NR&M ASS mapping has been completed, high probability areas can be defined. These areas may be used as justification to change the level of assessment in certain areas eg. from code to impact assessable development.

#### **ASS Tip 37 – Defining High Probability Areas of ASS**

High probability areas can be identified from NR&M *Special Acid Sulfate Soil Maps*. All maps show the 5 metre contour and identify ‘low probability areas’. The mapping scale dictates the amount of information shown about the presence and/or depth to actual or potential ASS. At 1:100 000 scale, the NR&M maps identify low probability units, units where ASS occur within 5 metres from the surface, and units where ASS are likely but there has been limited field assessment. At 1:50 000 and 1:25 000 scale, the NR&M maps identify low probability units, units where ASS are likely but there has been limited field assessment, units indicating presence and depth to existing acidity (pH  $\leq 4$  and pH  $>4$  to  $\leq 5$ ), and units indicating presence and depth to potential acidity.

The ASS units on NR&M *Special Acid Sulfate Soil Maps* can be interpreted as ‘high probability areas’ but these areas can be further refined depending on local information.

In areas where NR&M *Special Acid Sulfate Soil Maps* are not available, geomorphic and site description criteria can be used to identify high probability areas eg. land with elevation less than 2 metres AHD, areas where the dominant vegetation is mangroves etc. (see SPP 2/02 Guideline for further information).

## 10. ENVIRONMENT PROTECTION and BIODIVERSITY CONSERVATION ACT 1999

### 10.1 Introduction

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) commenced on 16 July 2000 and is the centrepiece of the Commonwealth's environmental regulatory regime. The following objectives of the EPBC Act are relevant to ASS:

- to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance (NES);
- to promote: ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; the conservation of biodiversity; and a co-operative approach to the protection and management of the environment involving governments, the community, landholders and indigenous peoples; and
- to assist in the co-operative implementation of Australia's international environmental responsibilities.<sup>53</sup>

**Administering Authority:** Department of Environment and Heritage.

**Jurisdiction:** Australia.

**Availability:** The EPBC Act is available on the web at [www.deh.gov.au/epbc](http://www.deh.gov.au/epbc). Information regarding the act can be found at [www.deh.gov.au/epbc](http://www.deh.gov.au/epbc). Hard copies are available from Comprint by phoning 1300 656 863.

### 10.2 Action and Controlled Action as used in the EPBC Act

The EPBC Act refers to 'actions' and 'controlled actions'. An action<sup>54</sup> includes, but is not limited to:

- a project;
- a development;
- an undertaking;
- an activity or series of activities; and
- an alteration of any of the above things.<sup>55</sup>

The concept of a 'controlled action' is the main trigger to the approvals and enforcement provisions of the Act. A controlled action is an action that taken without approval would be prohibited. A prohibited action is an action that has or will have or is likely to have a significant impact on a matter of national environmental significance<sup>56</sup> and other matters protected under the Act such as the environment on Commonwealth Land. Examples of controlled actions that involve the disturbance of ASS are those that may impact on areas such as a declared World Heritage Property<sup>57</sup>, declared Ramsar Wetlands<sup>58</sup>, and marine areas; and listed threatened species and communities<sup>59</sup>, and listed migratory species<sup>60</sup>. The Minister can decide through an alternative decision that the action is not a controlled action if undertaken in a specified manner<sup>61</sup>.

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<sup>53</sup> See section 3 of the EPBC Act.

<sup>54</sup> See section 523 of the EPBC Act.

<sup>55</sup> Section 524 of the EPBC Act defines certain things that are not actions which include the authorisations taken by a government body as set out in that section.

<sup>56</sup> Sections 12(1), 16(1), 18(1), 20(1), 21(1)&(2), and 23(1), (2)&(3) of the EPBC Act all provide the particular description of the matter of national environmental significance.

<sup>57</sup> Defined in section 13 of the EPBC Act.

<sup>58</sup> Defined in section 17 of the EPBC Act.

<sup>59</sup> In section 18 of the EPBC Act, these are broken down into particular types of species and communities. Nuclear actions are also a matter of national environmental significance, however are unlikely to involve the disturbance of ASS.

<sup>60</sup> These are defined in section 528 of the EPBC Act.

<sup>61</sup> See section 77(3) of the EPBC Act.

If you are proposing an action that you know or suspect may be a controlled action, it must be referred to the Minister for a decision. When making a decision, the Minister must consider all adverse impacts that the action has, will have, or is likely to have on matters of national environmental significance. Advice on specific proposals can be sought from the Department of Environment and Heritage.

Chapter 2 of the EPBC Act includes offences carrying penalties where a person takes an *action that has, will have or is likely to have a significant impact* on the matters of national environmental significance without approval from the Australian Government Environment Minister.

**ASS Tip 38** – What is ‘significant impact’ under the EPBC Act?

The Federal Court considered the meaning of significant impact in the *Flying Fox case*<sup>62</sup>. In that case, Justice Branson decided that a significant impact was “*an impact that is important, notable or of consequence having regard to its context or intensity*”. In other words, it would be erroneous to assume that because a certain action is typically innocuous, it will not trigger the provisions of the Act where it is carried out in proximity to a highly sensitive receiving environment, which comprises a matter of national environmental significance. Department of Environment and Heritage have published guidelines entitled ‘EPBC Act Administrative Guidelines on Significance, July 2000’ which provide guidance on whether a proposed action is likely to have a significant impact on any of the matters of national environmental significance.

**ASS Tip 39** – What does ‘likely to have’ mean under the EPBC Act?

Likely to have was recently interpreted in the *Flying Fox case* to mean “*a real chance or possibility regardless of whether it is less or more than 50%*”<sup>63</sup>. Hence, proposals should not be dismissed because of the small scale of the proposals or a general acceptance that its impacts are harmless. All of the circumstances must be duly considered. There is little case law on this matter at the time of writing and the meaning may be re-defined.

### 10.3 The Referral Process

The process of assessing and approving a controlled action under the Act potentially involves three stages: referral, assessment and approval. At the first stage a person (or a State or Federal government body) refers a proposed action to the Federal Environment Minister for determination whether the proposal involves a controlled action. If the proposed action is determined to involve a controlled action it is then assessed in accordance with the EPBC Act before the final stage where the Minister determines whether or not the action should proceed and any conditions that should apply.

**ASS Tip 40** – The referral process under the EPBC Act

Under the EPBC Act, the simplified referral process for controlled actions is:

1. Referral: The Act will be applicable if the action *has, will have or is likely to have a significant impact*
2. Assessment ss80–129 part 8: Determine the method of assessment and assess the proposed action
3. Approval ss130–145B part 9: Refuse or approve the proposed action

Where ASS are involved, and if there is any doubt whether the application has, will have or is likely to have a significant impact on a matter protected by the Act including matters of NES, it is best to seek the advice of Department of Environment and Heritage.

<sup>62</sup> Booth -v- Bosworth [2001] FCA1453.

<sup>63</sup> See Deane J in *Tilman Butcherries Pty Ltd -v- Australasian Meat Industry Employees Union* (1979) 42 FLR331.

To assess the impacts of a controlled action, the Minister has a number of possible approaches:

- an accredited assessment process;
- an assessment on preliminary documentation;
- a public environment report;
- an environmental impact statement; or
- a public enquiry.

There are detailed provisions in relation to each of the assessment procedures<sup>64</sup>. In addition, assessment may be done using a process:

- laid down under a bilateral agreement;
- specified in a declaration by the Minister, or
- accredited by the Minister.

#### **ASS Tip 41 – Bilateral agreements under the EPBC Act**

A bilateral agreement is an agreement between the Commonwealth and State/Territory governments accrediting State/Territory development approval processes for the ‘assessment stage’ (ie. assessment bilaterals) or alternatively, the assessment and approval stages (ie. approval bilaterals) of the referral process for controlled actions (McGrath 2003).

They in effect, allow the Commonwealth to delegate to the State the responsibility for conducting environmental assessments under the Act and, in more limited circumstances, the responsibility for granting environmental approvals under the Act. A formal EIS process is proposed to be inserted as a new part of Chapter 5 of the *Integrated Planning Act 1997* as part of an assessment bilateral under the EPBC Act (McGrath 2003).

## **10.4 The Decision**

At the conclusion of the chosen assessment process, the Minister can:

- approve the taking of the controlled action with or without conditions and in doing so, name the person who may take the action and the action that may be taken<sup>65</sup>; or
- refuse to issue an approval.

It should also be noted that the Minister must not decide whether to grant approval until he or she has received a notice from the relevant State confirming that the environmental impacts on matters other than the matters of national environmental significance have also been assessed.

When deciding whether to approve the taking of an action and what conditions to impose, the Minister must consider:

- social and economic matters;
- relevant environmental impacts;
- the principles of ecologically sustainable development;
- the assessment report on the impacts of the action;
- any other information about the impacts of the action; and
- relevant comments from other Ministers (such as information on social and economic factors)<sup>66</sup>.

## **10.5 Relevance to the Issue of Acid Sulfate Soils**

Actions that involve the disturbance of ASS and their management clearly may trigger the provisions of the EPBC Act. For example, development that may disturb ASS in proximity to a Commonwealth marine area may lead to significant impact. Such proposed actions may require referral and may require approval under the EPBC Act.

<sup>64</sup> See Part 8, Division 4 (assessment on preliminary documentation); Part 8, Division 5 (public environment reports), Part 8, Division 6 (environmental impact statements); Part 8, Division 7 (inquiries) of the EPBC Act.

<sup>65</sup> See section 133 of the EPBC Act.

<sup>66</sup> See section 136 of the EPBC Act.

Many activities that are to be carried out in ASS areas, will come within the definition of ‘action’ and must be carefully evaluated in relation to their likely impacts. A proponent may have confidence that proposed actions involving ASS may be satisfactorily managed to minimise impacts on matters of NES. When in doubt they should still refer the proposed action to the Minister.

#### **ASS Tip 42 – ASS and the EPBC Act**

Under the EPBC Act, approval is required for actions which have, will have or are likely to have a significant impact on a matter protected under the Act. The matters protected which are likely to be impacted by ASS disturbance include World Heritage areas, Ramsar Wetlands, listed species and Commonwealth marine areas.

Referrals under the EPBC Act to date for which ASS has been an issue include:

- two aquaculture proposals adjacent to the Queensland Wet Tropics World Heritage Area;
- an aquaculture proposal adjacent to the Great Barrier Reef World Heritage Area;
- a resort adjacent to the Great Barrier Reef World Heritage Area;
- two residential developments in Queensland involving listed threatened species;
- a residential development in Queensland adjacent to a Ramsar Wetland;
- an extractive industry proposal in Queensland adjacent to a Ramsar Wetland;
- a residential development in NSW adjacent to a Ramsar Wetland;
- a nickel mine adjacent to the Great Barrier Reef World Heritage Area; and
- a canal development adjoining the Great Barrier Reef World Heritage Area.

#### **ASS Tip 43 – ASS and the determination of significance**

The determination of significance is made on a case-by-case basis and it is generally recommended that if there is uncertainty then a proposed action should be referred to the Department of Environment and Heritage for a determination. As an example, although an ASS discharge may be upstream of the Great Barrier Reef, the impacts on an estuary for which there is an ecological association with the Great Barrier Reef would be taken into account in making the determination of significance.

## 11. ENVIRONMENT PROTECTION (SEA DUMPING ACT) 1981

### 11.1 Introduction

The *Environment Protection (Sea Dumping Act) 1981*<sup>67</sup> regulates the deliberate loading and dumping of wastes and other matter at sea. This Act potentially relates to the dumping of ASS material including dredge spoil into the sea.

**Administering Authority:** Department of Environment and Heritage, or Great Barrier Reef Marine Park Authority if the dumping is to occur in the Great Barrier Reef Marine Park.

**Jurisdiction:** All Australian waters (other than waters within the limits of a State or the Northern Territory), from the low water mark out to the limits of the Exclusive Economic Zone.

**Availability:** The Sea Dumping Act is available at [www.austlii.edu.au](http://www.austlii.edu.au). Hard copies are available from Comprint by phoning 1300 656 863. Further information about the Sea Dumping Act can be found at [www.deh.gov.au](http://www.deh.gov.au).

### 11.2 The Structure of the Act

The Act sets out a series of offences relating to the dumping of *controlled materials* into the sea, including their loading or export for the purposes of dumping<sup>68</sup>. Section 4 of the Act defines controlled material as wastes or other matter (within the meaning of the protocol). This could include ASS.

The Federal Minister for the Environment is empowered to take steps to remedy any condition or mitigate any damage arising from a *regulated occurrence*. With respect to ASS, this could mean any of the following:

- the dumping of controlled material eg. sulfidic and/or acidic material into Australian waters;
- an artificial reef placement in Australian waters; and
- a contravention of a condition of a permit.

### 11.3 Permits

Applications for a permit to dump material into the sea can be made under the Act<sup>69</sup>. The Minister can require further information to assess the application; and can require an applicant to enter into an agreement that requires research or analysis in relation to the proposed activity, which might have an effect on the marine environment. In deciding whether to grant a permit, consideration is given to the type of material proposed to be dumped, the dump site, and the potential impacts on the marine environment (Environment Australia 2003).

Further details of the permitting process for dredge spoil can be found in the *National Ocean Disposal Guidelines 2002*. These guidelines provide a national framework to assess the environmental impacts from the disposal at sea of dredged material. They document criteria for the assessment of ocean disposal proposals, as well as the level of investigation and assessment required.

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<sup>67</sup> The Sea Dumping Act was made pursuant to the Convention on the Prevention of Marine Pollution by Dumping of Waste and other matters 1972 and takes into account relevant international agreements and actions especially the United Nations Convention on the Law of the Sea 1982, and the Rio Declaration on Environment and Development and Agenda 21.

<sup>68</sup> See sections 10A–10F of the Sea Dumping Act.

<sup>69</sup> See section 18 of the Sea Dumping Act.

When assessing an application, the Minister must have regard to:

- the Torres Strait Treaty;
- the Antarctic Treaty; and
- any other treaty or convention to which Australia is a party and which relates to dumping at sea or to Antarctica or Antarctic resources.

The provisions of the Act also provide for the suspension or revocation of permits and the imposition of conditions<sup>70</sup>.

#### **11.4 Relevance to ASS**

The dumping of dredged sulfidic/acidic materials, which may include the disposal of excess sulfidic sand from maintenance dredging in existing canals, may require a permit under the Act. The protocol requires an assessment of waste or other matter that may be considered for dumping. This includes an assessment of the chemical, physical and biological properties of the waste. The protocol also provides for the consideration as to alternatives to the dumping of a waste.

It is foreseeable that waste containing ASS could be regarded as a controlled material, and hence its loading and dumping would require an application for a permit.

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<sup>70</sup> See sections 20 and 21 of the Sea Dumping Act.

## 12. ACID SULFATE SOIL STRATEGIES

There are two strategies that deal with ASS that have relevance to Queensland.

### 12.1 National Strategy

The *National Strategy for the Management of Coastal Acid Sulfate Soils* (SCARM 1999) promotes a holistic and comprehensive approach to ASS management and recognises and aims to coordinate ASS management and issues at the national level. The strategy has recognised ASS as an important issue requiring greater understanding and immediate action. The aims of the strategy include:

- improving the management and use of coastal ASS in Australia to protect and improve water quality in coastal floodplains and embayments; and
- assisting governments, industry and the community in identifying and undertaking their roles in managing coastal ASS.

To achieve these aims, the National Strategy established four principal objectives:

1. identify and define coastal ASS in Australia;
2. avoid disturbance of coastal ASS;
3. mitigate impacts when ASS disturbance is unavoidable;
4. rehabilitate disturbed ASS and acid drainage.

Recommended strategies and desired outcomes have been devised for each of the objectives. For example, *develop best management practices for future development on coastal ASS* has been listed as a recommended strategy to manage disturbance of ASS in a manner which addresses potential problems under objective 3.

The roles and responsibilities of federal government, state and territory governments, local governments/statutory authorities, industry organisations, community catchment groups and individual land owners have been summarised in the strategy. The strategy also recognises that resources are needed to achieve the desired outcomes particularly with respect to funding, raising awareness of the issue, coordinating government participation, providing incentives for rehabilitation, technical resources, regulation and research.

It is clearly stated that the strategy will '*only be effective when the parties identified in this document, develop and implement action plans in their area of responsibility*'.

The National Committee for Acid Sulfate Soils (NatCASS) facilitates the implementation of the *National Strategy for the Management of Coastal Acid Sulfate Soils*. NatCASS has reviewed progress nationally to date and has prepared an action plan for future activities.

### 12.2 Queensland Strategy

Acid sulfate soils are a multi-stakeholder issue, involving numerous State Government agencies, many industries, local governments and coastal communities and a number of professional disciplines. Consequently, the Queensland Acid Sulfate Soils Management Advisory Committee (QASSMAC) and the Queensland Government identified a need to develop a Statewide, whole of government ASS strategy. Coordination and collaboration between State and local government agencies, industry and the community was also to be fostered by the strategy.

The QASSMAC *Acid Sulfate Soils Management Strategy for Queensland* was released by the Minister for Natural Resources in 1999, and proposed to build such an approach through six key elements:

1. Awareness, education and training.
2. Mapping and assessment.
3. Planning, management and environmental advice.
4. Research and development.
5. Policy, regulation and lead agency.
6. Regional community participation.

Roles and responsibilities for stakeholders were identified in the strategy. The aim of the strategy is to facilitate and support the minimisation of further disturbance of ASS, and promote the management and rehabilitation of these soils (Powell and Ahern 1999).

**ASS Tip 44 – The relevance of the National and Queensland ASS strategies**

The Queensland strategy was a pivotal point for improving ASS awareness, assessment and management in Queensland. Since its commencement there has been increased ASS awareness through a variety of publications, workshops and recent statutory changes (eg. the commencement in November 2002 of the State Planning Policy 2/02). Acid sulfate risk maps are now available for specific hot spot areas of the State (eg. Gold Coast and the Maroochy-Mooloolah catchments), however there are still many areas that have not been adequately characterised. The standards of environmental assessment and environmental management have improved with the release of publications such as the *Soil Management Guidelines* and *The Instructions*. Laboratory analysis procedures have also been refined, and the level of skill within local and State government agencies has also increased. These areas fall within the ASS strategy.

It is now widely recognised that in order to attract funding from sources such as NHT, direct reference and applicability of national and State strategies must be found. For example partial funding for the *Soil Management Guidelines* was provided by NHT. These guidelines are consistent with the National Strategy eg. *to develop best management practices for future development on coastal ASS*. The State Planning Policy 2/02 was also a direct outcome of the national and State initiatives documented by these strategies.

## 13. INFRASTRUCTURE DEVELOPMENT

### 13.1 Queensland Ports

Queensland has 14 trading ports, two community ports, and a number of non-trading ports located at regular intervals from Brisbane in the south-east to Karumba in the north-west. Disturbance of ASS may occur during the construction and maintenance of ports, and management of these soils is an essential requirement.

**Administering Authority:** Primarily Queensland Transport (the ports of Brisbane, Bundaberg, Gladstone, Rockhampton, Mackay, Townsville and Cairns are each managed by single regional port authorities while the Ports Corporation of Queensland administers the remainder).

**Jurisdiction:** Queensland.

Queensland's port authorities operate principally under the provisions of the *Government Owned Corporations Act 1993*, the *Transport Infrastructure Act 1994* (Transport Infrastructure Act), and the *Financial Administration and Audit Act 1977*. The legislative regime enables the Queensland Government to retain ownership of port authorities through the Shareholding Ministers (Minister for Transport and Main Roads and the Treasurer), and to set overall strategic direction.

### 13.2 Port Land Use Plans

Each port authority must, from time to time, prepare a land use plan for approval under section 171 of the Transport Infrastructure Act. A port authority's land use plan must specify details of—

- (a) the authority's strategic port land; and
- (b) land the authority wishes to become strategic port land; and
- (c) the current and proposed uses of the land.

The land use plan is approved by the Minister after a public consultation process. Land included in a port authority's current approved land use plan is its strategic port land. Strategic port land is not subject to local government planning schemes, despite the IPA<sup>71</sup>, however, the port authority does require applications for development approvals to be lodged under IPA. To date, a variety of land use plans have been prepared by the Queensland Port Corporation with several currently undergoing their public review in accordance with the requirements of the Transport Infrastructure Act.

#### **ASS Tip 45** – Infrastructure developers, the EP Act and the Coastal Act

Operating a port is an environmentally relevant activity, requiring approval under the EP Act (ERA 71). Accordingly, it may attract conditions relating to the management of ASS. Other infrastructure development may also be an ERA.

All infrastructure developers (eg. roads, rail and ports) are required to comply with the *general environmental duty* under the EP Act. See section 2.4.

Other development made assessable through Schedule 8 (such as tidal works under the Coastal Act) also applies on Strategic Port Land. The Port Authority regulates development on Strategic Port Land and is the assessment manager for all applications, regardless of whether the development is inconsistent or consistent with the land use plan. In these situations, concurrence and referral agency roles are retained under Schedule 2 of the IP Regulations.

<sup>71</sup> See section 2.1.2 of IPA.

### **ASS Tip 46 – The Port of Brisbane**

Acid sulfate soils have been identified at many ports in Queensland, including the Port of Brisbane. The Environmental Management System developed by the Port of Brisbane attempts to ensure the Corporation's goals of continuous environmental performance and sustainability are achieved. All development on this port land is required to be processed through their Development Assessment System regardless of whether or not the application technically requires an IPA application.

A series of 'Development Guidelines' for developments have been devised. These outline the environmental measures required for all developments, and include guidance on the management of ASS. An ASS Management Plan has been developed and parallels the intent of the SPP 2/02, but is targeted to developments on port lands. The Plan provides detail on the presence of ASS on port lands; dredging, reclamation, filling processes and management; and ASS testing and management. It includes a series of operational procedures, which can be supplied to development proponents. The Plan is identified in the port's development guidelines, and provides an alternative mechanism for addressing ASS. The Plan is reviewed at least every two years (or whenever recognised changes to current practices are released) to ensure that current best practice technologies and management strategies continue to be reflected.

## **13.3 Roads and Rail**

The planning and construction of main roads and highways is done under the jurisdiction of the Department of Main Roads; local government is responsible for local roads. Disturbance of ASS can occur during the construction and maintenance of roads and rail infrastructure. A variety of legislative and policy instruments are available to address the environmental issues associated with large State infrastructure. For example:

- the Commonwealth EPBC Act is applicable when the construction and maintenance of road or rail infrastructure is a controlled action that has, will have, is likely to have a significant impact on a matter of national environmental significance;
- the Transport Infrastructure Act provides a regime under which roads can operate;
- the State Development Act is applicable for the construction of large road and rail infrastructure projects;
- the EP Act is applicable when ERAs are to be undertaken and at all other times by requiring operators to undertake all reasonable and practical measures to prevent or ensure that *environmental harm* is minimised;
- the IPA is applicable for development (as defined under IPA);
- the Coastal Act is applicable in coastal management control districts;
- the SPP 2/02 is applicable for any works where excavating or otherwise removing  $\geq 100 \text{ m}^3$  of soil or sediment; or filling of land involving  $\geq 500 \text{ m}^3$  of material at greater than an average depth of 0.5 of a metre; and
- the Fisheries Act requires permits for works in a Fish Habitat Area, the removal of marine plants etc.

### **ASS Tip 47 – What about airports?**

Airports are located on Commonwealth land or they can be privately owned. Airports that are located on Commonwealth land are regulated by the *Airports Act 1996* (Commonwealth) and the *Airports (Environment Protection) Regulations 1997*. This legislation imposes a **general environmental duty** on operators to take steps to prevent pollution and adverse impacts to ecosystems, among other environmental issues (Lawler and Smith 2002). The EP Act does not apply to airports that are regulated by the *Airports Act 1996* (Commonwealth) and the *Airports (Environment Protection) Regulations 1997*.

Approvals under the Coastal Act and Fisheries Act may be applicable to certain activities on airports regulated by the *Airports Act 1996* (Commonwealth) and the *Airports (Environment Protection) Regulations 1997* as State laws dealing with biota, habitat, heritage sites and sites of indigenous significance also have effect on airports to the extent they are not inconsistent with Commonwealth laws dealing with the subject matters.

Development approval and environmental management for other privately owned airports are regulated under Queensland legislation (eg. IPA and EP Act) (Lawler and Smith 2002).

## 14. COURT DECISIONS

### 14.1 Issues Concerning Acid Sulfate Soils

In Queensland, there have been only a few decisions in the jurisdiction of the Planning and Environment Court<sup>72</sup> in which ASS, or more properly, the potential impacts from their disturbance, has been an issue of any significance. Other cases have been presented in the Magistrates Court.

It may be speculated that one of the reasons for this is a consequence of a past lack of appreciation among the community of the potential impacts and the need for proper management of ASS. Therefore, it may not have arisen as frequently as a basis upon which to either oppose or refuse development applications. Further, until recently, ASS and its management has not been addressed in any significant detail within the provisions of planning schemes. In fact, the *Soil Management Guidelines*, which outline *best practice environmental management* of ASS, was released only in November 2002. ASS are now being dealt with in new planning schemes being introduced under IPA, mainly within codes and maps contained in those schemes. Compliance with these codes and the acceptable measures to be employed in meeting their performance criteria will become an issue in the assessment of development, both at the code and impact assessment level.

It is useful to make short reference to these and recent NSW decisions to appreciate how the issue has been approached where the Court has acted in its appellate jurisdiction in respect of planning decisions. These notes will primarily focus upon the ASS issue and how it was dealt with in the particular case.

### 14.2 Queensland Decisions

#### **Armdrott P/L v Caboolture Shire Council and Ors (P&E Court Nov 2000)**

This was an appeal against the refusal of an application for a permit to carry out an extractive industry on a large piece of land located adjacent to low tidal land which in turn abutted the shores of Deception Bay. The land was already being used for the industry in question and this application sought to 'regularise' that use. The Council refused the application, particularly out of concern for the potential environmental impacts, citing among other things, the application of the precautionary principle.

An appeal was dismissed and the application accordingly refused. Among its reasons, the Court concluded that there was a lack of understanding of the groundwater regime of the land (a poor understanding of groundwater hydrology could lead to unforeseen impacts on any *in situ* ASS should these soils be drained). In short, while management measures were proposed and plans were to be provided in this respect, the Court was not satisfied that there was a sufficient appreciation of the risk, such that the adequacy or otherwise of measures could be assessed with any confidence. Evidence of existing levels of contaminants was also a concern. This among other matters was a reason why the Court declined to overturn the Council's refusal of the application.

#### **CSR Limited v Caboolture Shire Council and Ors (P&E Court March 2001)**

This was an appeal against the Council's refusal of an application to carry out an extractive industry on rural zoned land, close to Elimbah and Bullock creeks, and adjoining a Ramsar wetland.

Issues in the appeal included the potential impacts arising from ASS. The Court was satisfied that the potential for exposing these soils to oxygen was not high; that the ASS were located below groundwater levels; and a management plan had been prepared. While these matters were heavily

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<sup>72</sup> In mid-August 2004, it was announced that the Land Court, the Land and Resources Tribunal, and the Planning and Environment Court will be merged to form the Land and Environment Court. The new court will commence operations in early 2005.

contested, the judgment stated that management measures appeared to allay the concerns involved. As at July 2004, the proposal is yet to obtain approval under the EPBC Act and EP Act, where ASS issues (among others) are being re-examined.

### **Histpark P/L v Maroochy Shire Council (P&E Court September 2001)**

This was an appeal against the refusal of an application for the reconfiguration (subdivision) of land into lots for commercial purposes. The land was recognised as containing ASS and was located near the junction of Eudlo Creek with the Maroochy River at the Sunshine Coast.

The appeal was dismissed, mainly because of environmental concerns arising, among other things, from surface water runoff into the nearby waterways. The presence of ASS was an issue that was of concern when the application was refused; however it was less contentious before the Court, which was ultimately satisfied that this was a manageable issue, given that there was to be limited large-scale excavation on-site. However the Court saw it as appropriate that, if the application were to be approved, additional measures to reduce infiltration and subsequent leaching should be introduced. The Court's ultimate refusal of the application rendered this requirement redundant.

An interesting aspect of this case was that the relevant experts for the parties had conferred prior to the commencement of the cases and managed to reach agreement on aspects of the ASS issue, such that it took up less of the Court's time than it may otherwise have done.

### **Magistrate's Court**

There have been proceedings in the Magistrate's Court dealing with ASS and the Fisheries Act. In Mourilyan north Queensland, a Magistrate's Court action resulted from the digging of a drain through more than 1 kilometre of ASS. The Magistrate's Court imposed a Recognisance which detailed the actions to be undertaken with a total cost estimated at \$15 000. Satisfying the Recognisance (which included backfilling and neutralisation of the spoil) was proposed and undertaken to preclude a fine.

In another case at Noosa, earthworks that were considered unlawful under the Fisheries Act, led to the blockage of a tidal drain. The authorities became aware of the works after a fish kill in the drain. Low pH values and low dissolved oxygen levels were recorded in the drains, even after the tidal regime was re-established. Earthworks in the vicinity of the tidal drain were through ASS. The respondent pleaded guilty, and the court handed down a Recognisance. The defendant lodged an appeal that was successful on 'technical grounds' that did not relate to ASS. The defendant was then issued with a Restoration Notice. Remediation was then carried out over the offending drains.

## **14.3 New South Wales Decisions**

### **Byron Bay Business for the Future Inc. v Byron Bay Council and Ors (L&E Court Sept 1994)**

This proceeding concerned the validity of a development consent issued by Byron Council for the construction of a Club Mediterranean tourist facility. Acid sulfate soils were located on the proposed site.

The approval was held to be void essentially because it was not reasonably open to the Council, on the material before it, to conclude there was not likely to be a significant effect on the environment of endangered fauna identified in respect of the land. It was argued that the Council did not give proper consideration to this issue of ASS. The presiding Judge found that the Council was provided with substantial material in relation to ASS and the proposed drainage of the land. In this case, Her Honour found that the Council's decision was reasonable and appropriately considered. The Court held that the Council was under no duty to seek out the experts' contrary opinion.

This NSW decision has relevance to Queensland when considering what issues local government may have to investigate in relation to ASS. Essentially, the matters which must be considered by local government, are contained in the provisions of IPA. IPA also allows local government to obtain further information from the applicant. The local government has the discretion to employ a consultant to review the material should it see the need to do so. However, it is not unreasonable for a local government to rely upon the advice of qualified consultants employed by an applicant in the circumstances. The concurrence position of the Environmental Protection Agency would also be an important role in this regard.

#### **Cameron v Nambucca Shire Council (L&E Court August 1997)**

These were proceedings brought after the approval of a resort style residential development at Scotts Head, New South Wales. Among other things, it was alleged that Nambucca Shire Council had failed to address the impact of disturbing ASS. In this respect, the applicant relied upon the absence of any specific reference to the risk from ASS in the report to Council, which was considered prior to the approval. In this context, the Environmental Protection Authority had written to the Council recommending that conditions be imposed concerning the preparation of management plans. The Court found that the Council had taken into account all of the necessary relevant material and decided that proper consideration was had in relation to this issue.

#### **Transport Action Group Against Motorways Inc. v Roads & Traffic Authority (Court of Appeal June 1999)**

This was a legal challenge to the proposal by the Roads & Traffic Authority to construct a 4 lane motorway. At the completion of the environmental impact assessment, changes were made to the proposed alignment and construction of the motorway. The challenge was regarding whether a new environmental impact statement should have been prepared. It was submitted that the changes to the development were of such impact that new considerations were required to be investigated and were not otherwise authorised by the *Environmental Planning & Assessment Act*.

The matter went to the Court of Appeal, which ultimately declared that the appeal ought to be dismissed. The Court held that the proposed modifications did not involve a radical transformation of the original activity, and so did not warrant a further EIS.

Acid sulfate soil was one of the issues for determination. The river bed where a proposed tunnel was to be constructed had high ASS potential. There was limited information in regard to the spoil (containing ASS) which would require treatment in storage ponds and drying beds before disposal. It was found that the statutory ability to amend the proposal without the requirement for further investigation was necessarily of a minor nature.

The majority members of the Court based their decision on the fact that the relevant provisions of the Act enabled the change to be made without the requirement for an environmental impact statement. In the appeal, it was argued that the modifications raised issues of procedural fairness, but those arguments did not stick.

The minority member was of the view that the Court must determine for itself, whether the alterations constituted a modification which reduced the environmental effect of the construction works and that in the circumstances, it was impossible to rationally compare these effects. He held that it was clear that the alterations to the original proposal would impose new significant detrimental effects and that the amended proposal was beyond the power of modification.

## 14.4 Federal Court

### **Friends of Hinchinbrook Society Inc. v Minister for Environment and Ors (1997)**

In 1997, the Friends of Hinchinbrook lost its application for special leave to the High Court to appeal against the Federal Court's decision on Port Hinchinbrook and the adjacent World Heritage Area. The appeal related to the refusal of the Federal Court to review the Federal Environment Minister's approval for dredging in Hinchinbrook Passage. The applicant argued that it was unreasonable for the Minister to rely on prospective actions by others (through the 1994 Deed of Agreement between the developer, the Queensland Government and Cardwell Shire Council; and the Memorandum of Understanding on regional planning); that the Minister had deferred vital issues; and that the Minister was bound to apply the precautionary principle when making his decision. The Court ruled that the Minister's decision was 'lawful' and 'procedurally correct'; however it also stressed that the role of the Court was '*not to determine the desirability or otherwise of the Port Hinchinbrook development*' (Parliament of Australia Senate 1999).

This matter was also the focus of a 1998–1999 Senate inquiry. The environmental assessment, approval process, management of ASS, evidence of acid leachate, and evidence of environmental harm from acid leachate (among other issues) were discussed at length at the enquiry, and a number of recommendations were made. The committee noted that while the ASS management plan for Port Hinchinbrook was 'very far from best practice', and that several breaches of the management plan had been reported, the actual evidence of environmental harm arising from disturbance of ASS at the site (whether present or future) was disputed. The committee recommended that the Commonwealth should allocate special funds to conduct both general research on ASS and a special project that would expedite ASS mapping around Australia. The committee also made a recommendation that local, State or Commonwealth government agencies should commit to thorough, independent environmental assessments for significant projects, and stated that the development approval process for Port Hinchinbrook was unsatisfactory.

Stage 2 of the Port Hinchinbrook development has recently been submitted for development approval. The application is being assessed under IPA. It was also identified as a controlled action under the EPBC Act.

## **15. CONCLUSION**

The legislation and policies discussed in this chapter are aimed at protecting the environment and promoting ecologically sustainable development. It is hoped that this chapter has provided useful information and a summary of the legislation and policies that are relevant to acid sulfate soils. However this chapter must be used as a guide only and is not an exhaustive discussion of the legal requirements involved.

Discussion of acid sulfate soil issues between government officers, lawyers, consultants and developers may promote better environmental outcomes and reduce the unnecessary ventilation of these issues before the Courts. These laws and policies underpin the management of any activity that may disturb acid sulfate soils.

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## **USEFUL WEB SITES**

Acid sulfate soils in Queensland: [www.nrm.qld.gov.au/land/ass](http://www.nrm.qld.gov.au/land/ass)

Advice and topics in acid sulfate soils, NSW: [www.agric.nsw.gov.au/reader/8632](http://www.agric.nsw.gov.au/reader/8632)

Environmental protection in Queensland: [www.epa.qld.gov.au](http://www.epa.qld.gov.au)

High Court, Federal Court and NSW Court decisions: [www.austlii.edu.au/](http://www.austlii.edu.au/)

National coastal acid sulfate soils homepage: [www.deh.gov.au/coasts/cass/](http://www.deh.gov.au/coasts/cass/)

NSW acid sulfate soils information: [www.dipnr.nsw.gov.au/care/soils/ass](http://www.dipnr.nsw.gov.au/care/soils/ass)

Queensland legislation: [www.legislation.qld.gov.au/OQPChome.htm](http://www.legislation.qld.gov.au/OQPChome.htm)

Queensland planning and environment Court: [www.courts.qld.gov.au/qjudgment/pe.htm](http://www.courts.qld.gov.au/qjudgment/pe.htm)

WA Advice in environmental protection and acid sulfate soils: [www.envIRON.wa.gov.au/](http://www.envIRON.wa.gov.au/)

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