



Environmental Protection Authority

Guidance for the Assessment of Environmental Factors

(in accordance with the
Environmental Protection
Act 1986)

**Level of assessment for
proposals affecting
bushland areas within
the System 6 and the
southern Swan Coastal
Plain Region**

No. 10

Draft

January 2001

Western Australia

FOREWORD

The Environmental Protection Authority (EPA) is an independent statutory authority and is the key provider of independent environmental advice to Government.

The EPA's objectives are to protect the environment and to prevent, control and abate pollution. The EPA aims to achieve some of this through the development of environmental protection Guidance Statements for the environmental impact assessment (EIA) of proposals.

This document is one in a series being issued by the EPA to assist proponents, consultants and the public generally to gain additional information about the EPA's thinking in relation to aspects of the EIA process. The series provides the basis for EPA's evaluation of, and advice on, development proposals subject to EIA. The Guidance Statements are one part of assisting proponents in achieving an environmentally acceptable proposal. Consistent with the notion of continuous environmental improvement and adaptive environmental management, the EPA expects proponents to take all reasonable and practicable measures to protect the environment and to view the requirements of this Guidance as representing the minimum necessary process required to achieve an appropriate level of environmental protection.

This Guidance outlines the EPA's approach to environmental assessment of proposals involving the clearing of bushland within System 6 and the southern Swan Coastal Plain region. The EPA places great importance on protecting regionally significant bushland and expects that proponents will conduct a thorough appraisal of all development options and site selection options that would avoid direct or indirect impacts on bushland in the first instance, prior to presenting a proposal for EIA.

As is normal practice this Guidance Statement has the status "**Draft**" which means that it has been endorsed by the EPA for release for stakeholder and public review and comment for 12 weeks.

I am pleased to release this document and encourage you to comment on it. Information on where to send your comments is provided on the following page.

Bernard Bowen

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CHAIRMAN
ENVIRONMENTAL PROTECTION AUTHORITY

January 2001

*Issues
Regionally Significant
Bushland!*

**ENVIRONMENTAL PROTECTION AUTHORITY
GUIDANCE FOR THE ASSESSMENT OF ENVIRONMENTAL FACTORS**

**DRAFT GUIDANCE STATEMENT No.10:
LEVEL OF ASSESSMENT FOR PROPOSALS AFFECTING BUSHLAND AREAS
WITHIN THE SYSTEM 6 AND THE SOUTHERN SWAN COASTAL PLAIN REGION**

How to comment on this document

This document is released for stakeholder and public comment for a period of 12 weeks. Your comments are welcome.

Please send your comments by closing date for comment to:

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Guidance Statement No. 10

Guidance Statement for Level of Assessment for proposals affecting bushland areas within the System 6 and southern Swan Coastal Plain region

Key Words: System 6, System 1, Bush Forever, bushland, regional significance, reasonable outcome, Threatened and Poorly Reserved Plant Communities, Threatened Ecological Communities, Forest Management Plan Conservation Areas.

1. PURPOSE

- 1.1 Guidance Statements are developed by the EPA to provide advice to proponents, and the public generally, about the minimum requirements for environmental assessment and management which the EPA would expect to be met when the Authority considers a proposal during the assessment process.

This Guidance Statement is termed "Draft", and should be viewed as a general guide to EIA. While the content of the guidance has not yet been signed off by the EPA at this stage, it should be regarded as the latest thinking in the mind of the EPA if it is asked to consider the issue for assessment. Users are advised to be mindful of the guidance at this early stage. The draft guidance statement will be reviewed and developed into a final guidance statement through the process outlined in Appendix 1.

- 1.2 This Guidance Statement specifically addresses the environmental assessment of proposals involving the clearing of bushland, within

- Bush Forever Sites, — what re Books
- the Conservation Reserves for Western Australia System 6 (System 6), and
- Swan Coastal Plain portion of Conservation Reserves for Western Australia System 1 (System 1) regions (see Figure 1),

to ensure that proposals are adequately assessed and that developments are compatible with the intent of the recommendations for and/or conservation values, of the area.

This includes proposals with the potential to impact on

- System 6 recommendations (Department of Conservation and Environment (DCE), 1983),
- Swan Coastal Plain portion of System 1 recommendations (DCE, 1976),
- Bush Forever Sites (Government of Western Australia, 2000),
- areas identified by the EPA as Threatened or Poorly Reserved Plant Communities (EPA, 1994),
- areas classified by the Department of Conservation and Land Management (CALM) as Threatened Ecological Communities (English and Blyth, 1997), and
- other areas of regionally significant bushland outside the Bush Forever study area.

Handwritten notes:
 S6 Site
 S1 Site
 Refer to Action DB
 Part of S6/S1

Areas covered by the Regional Forest Agreement (RFA) for the South West Forest Region of Western Australia (Commonwealth of Australia and the State of Western Australia, 1999) and which will be implemented through Forest Management Plans are outside the scope of this Guidance Statement. ✓

The Guidance provides information which the EPA will consider when assessing proposals where regionally significant bushland is a relevant environmental factor in an assessment. It takes into account:

- (a) protection of the environment as defined by the *Environmental Protection Act 1986* (Government of Western Australia, 1986) with a focus on regionally significant bushland and biodiversity conservation;
- (b) the factor of regionally significant bushland (see glossary page 14).

- 1.3** This is a Guidance Statement and proponents are encouraged to consider their proposals in the light of the guidance given. A proponent who wishes to deviate from the minimum level of performance set out in this Guidance Statement would be expected to put a well researched and clear justification to the EPA arguing the need for that deviation.

2. THE ISSUE

2.1 Context

The South West Botanical Province of Western Australia is recognised as one of the world's richest botanical areas. It supports an estimated 9000 taxa of vascular plants. This represents 75% of the estimated plant taxa in Western Australia (Government of Western Australia, 1997a). Over 70% of the plant taxa in the South West are endemic to the province. The province is characterised by generally infertile soils supporting species-rich ecosystems adapted to recycle efficiently the limited nutrients available, and typically to withstand a climate combining long summer drought conditions with high temperatures.

There has been considerable human pressure on the natural environments around the Perth Metropolitan Area (PMA). The EPA has previously estimated that some 80% of the wetlands on the Swan Coastal Plain have been lost or irreversibly degraded (EPA, 1991). More than 97% of the heavier more fertile soils on the eastern side of the Swan Coastal Plain have been cleared (CALM, 1990).

This Guidance is derived from current State, National and International policies for the conservation of biological diversity. Key policy statements appear in the following documents which provide general and specific recommendations for the conservation of biological diversity in the region:

- Bush Forever (Government of Western Australia, 2000);
- RFA for the South-West Forest Region of Western Australia (Commonwealth of Australia and the State of Western Australia, 1999);
- Perth's Bushplan (Government of Western Australia, 1998);
- Natural Heritage Trust Partnership Agreement (Commonwealth of Australia and State of Western Australia, 1997);

- Wetlands Conservation Policy for Western Australia (Government of Western Australia, 1997b);
- National Strategy for the Conservation of Australia's Biological Diversity (Commonwealth of Australia, 1996);
- Urban Bushland Strategy (Government of Western Australia, 1995);
- Forest Management Plan 1994 – 2003 (CALM, 1994);
- Conservation Reserves for Western Australia System 6 (DCE, 1983); and
- Conservation Reserves for Western Australia System 1 (DCE, 1976).

* Bush Forever identifies areas of regional conservation value on the Swan Coastal Plain portion of the PMA. It is designed to protect as far as is possible, a comprehensive representation of the biological diversity on the Metropolitan Coastal Plain. Bush Forever has been endorsed by Cabinet. The recommendations for conservation in the remainder of the System 6 area and the System 1 portion of the Swan Coastal Plain are in the process of being updated, through the System 6 Update programme. Recommendations in the State Forest areas have been updated through the RFA process.

The National Strategy for the Conservation of Australia's Biological Diversity is the primary policy for the conservation of Australia's biological diversity. It calls for the establishment of a comprehensive, adequate and representative (CAR) system of ecologically viable protected areas, integrated with the sympathetic management of conservation values off-reserves.

Within urban areas the Western Australian Government's Urban Bushland Strategy identifies the need to conserve a target figure of not less than 10% of the original extent of each of the vegetation complexes (based on the Heddlé *et al.* (1980) classification) in not less than five separate areas.

The criteria used for the RFA process recommend that 15% of the pre-1750 distribution (ie. Prior to European colonisation) of each forest ecosystem should be protected in the CAR system (JANIS, 1997).

Under the Natural Heritage Trust Partnership Agreement (Commonwealth of Australia and State of Western Australia, 1997), Western Australia has committed to a number of performance indicators including: no clearing of endangered ecological communities; and no activities that adversely affect the conservation threat category of ecological communities.

The System 6 report addresses conservation recommendations in the region from the Moore River in the north to the Blackwood River in the south including the Darling Scarp and Plateau and includes the PMA. It comprises a large proportion of the Jarrah Forest Region, as defined in the Interim Biogeographic Regionalisation of Australia (IBRA) and the central portion of the Swan Coastal Plain IBRA region (Thackway and Cresswell, 1995).

System 1 covers the southern end of the Swan Coastal Plain, and parts of the Jarrah Forest and the Warren IBRA Regions. This Guidance applies specifically to the portion of System 1 on the Swan Coastal Plain, as well as to System 6.

The Forest Management Plan 1994 - 2003 (CALM, 1994) identifies conservation areas within State Forest. These conservation areas supersede the System 6 and System 1 recommendations within the State Forest and are themselves replaced by the recommendations developed through the RFA within the area covered by the RFA.

2.2 The Environmental Protection Authority's Previous Statements

The EPA has recently provided advice to the Minister for the Environment on aspects of Bush Forever in accordance with Section 16(e) of the *Environmental Protection Act 1986* (Bulletin 1007, EPA 2000). This advice is reflected in appropriate places within the Guidance document. In August 1999 the EPA established its position on the implementation of Perth's Bushplan (now Bush Forever) (see Appendix 2). The EPA's preferred position is that Bushplan (now Bush Forever) be implemented in accordance with the published draft Bushplan. The EPA recognises that Government officers will be responsible for Bushplan's (now Bush Forever) implementation and that this will involve some negotiated planning outcomes. If a satisfactory outcome cannot be reached by the Government officers responsible for the implementation of Bushplan (now Bush Forever) it is expected that referral to the EPA would occur. In this instance it is likely the EPA would recommend to the Minister for the Environment that the *Environmental Protection Act 1986* be used to achieve the outcome set out in Bushplan (now Bush Forever).

Guidelines for Environment and Planning were released in June 1997 (EPA, 1997). The guidelines state that protection of remnant vegetation should be a priority. In 'Part 2, Section 1, Native Remnant Vegetation' the Guidelines recognise that it is important that representative areas are set aside to maintain the biodiversity of the State in perpetuity. It is also important that development is sensitive to the advantages of retaining natural habitat on private lands.

The EPA (1997) established the following principles to ensure the protection and management of the conservation estate:

- an adequate and representative system of reserves should be set aside for the conservation of flora, fauna and landscape;
- sites of ethnographic, cultural and historic significance, and features of geological or geomorphological value should be protected;
- the conservation estate should be properly managed and given long term security of tenure, purpose, and management, commensurate with its conservation values; and
- land-uses adjacent to conservation estate should have minimal impact on the area's conservation values.

Some areas of land, worthy of inclusion in the conservation estate, may remain in private ownership and will still require appropriate management.

The areas of high conservation value identified by the EPA (1997) were:

- areas recommended for protection in the Systems 'Red Book' reports;
- land vested in the National Parks and Nature Conservation Authority;
- other areas recommended by CALM, and endorsed by Government, for inclusion in the conservation estate;
- areas retaining bushland reserved as "Parks and Recreation" under the Metropolitan Region Scheme;
- areas such as State Forest managed for multiple use where conservation is a defined use;
- areas with rare vegetation communities, or assemblages considered by the EPA not adequately represented in secure conservation areas;
- land containing Declared Rare Flora or Fauna, and the habitats of Declared Rare Fauna; and

- Ramsar wetlands supporting nationally and internationally recognised species.

Impacts to be avoided on the areas nominated above:

- direct loss of the conservation estate through clearing; and
- indirect loss through weed invasion, spread of dieback and other pathogens, damage caused by fire and other perturbations, and introduction of exotic species.

Management Advice

- The EPA requires that there should be no unauthorised loss of vegetation in areas identified above; and
- Rare species, including declared rare flora and fauna should be protected.

43 sites supporting threatened or poorly reserved plant communities on the Swan Coastal Plain were recognised in map form by the EPA (EPA, 1994). The high conservation values of these areas were identified through two studies: Keighery & Trudgen (1992) and Gibson *et al.* (1994).

The EPA informed affected landholders and decision makers in May 1995 that proposals impacting on areas supporting threatened and poorly reserved plant communities should be referred to the EPA under Section 38 of the *Environmental Protection Act 1986*. This Guidance now supersedes that position to the extent that within the Bush Forever study area Bush Forever Sites replace the threatened and poorly reserved plant community sites. Within the Guidance area identified on Figure 1 outside the Bush Forever study area the original threatened and poorly reserved plant community sites remain and will be treated by the EPA as outlined in Table 4. In addition a series of Threatened Ecological Communities have been recognised by CALM (English and Blyth, 1997).

3. THE GUIDANCE

3.1 Application of the Guidance to Assessment

When considering proposals with the potential to impact on bushland of regional significance in the Guidance area (see Figure 1), the EPA will normally determine the level of assessment by applying the criteria outlined in Tables 1 - 4. The EPA places great importance on protecting regionally significant bushland and expects that proponents will conduct a thorough appraisal of all development options and site selection options that would avoid direct or indirect impacts on bushland in the first instance, prior to presenting a proposal for EIA.

It should be noted that the EPA considers that development proposals in all areas covered by Tables 1-4 below may potentially have a significant effect on regionally significant bushland. Accordingly the EPA advises that consistent with Bush Forever, proposals in areas covered by Table 1 should be referred to the Ministry for Planning (MfP) in the first instance. Proposals in areas covered by Tables 2-4 should be referred in writing to the EPA. The EPA will then determine whether or not the proposal should be subject to EIA and at what level such an assessment should take place in line with Tables 1-4.

The EPA notes that the MfP is the lead agency for the implementation of Bush Forever. The EPA expects any proposals that may affect Bush Forever Sites to be referred to the MfP/Western Australian Planning Commission (WAPC) in the first instance. The objective of this will be to ensure through discussion that proposals avoid or minimise impact on Bush Forever Sites. Where this is not possible proposals should be referred to the EPA. For proposals in Sites already constrained by zoning or development approvals and identified as sites to be implemented through negotiated planning solutions (NPS) in Bush Forever, the EPA will follow the process outlined in the flow diagram (see Appendix 4).

Normally the EPA would expect a reasonable outcome through the NPS process administered by the MfP. Where Bush Forever Sites have been implemented the EPA would operate on the presumption of any further development adversely impacting on the Site being environmentally unacceptable.

The conservation areas within the Forest Management Plan (CALM, 1994) supersede the System 6 and System 1 recommendations in State Forest Areas.

Areas covered by the RFA for the South West Forest Region of Western Australia (Commonwealth of Australia and State of Western Australia, 1999) and which will be implemented through Forest Management Plans are outside the scope of this Guidance Statement.

This Guidance does not apply to locally significant bushland. The EPA supports the actions in Bush Forever regarding locally significant bushland and expects that proposals impacting on locally significant bushland will be dealt with in a manner that is consistent with the intent of these actions.

Figure 1 showing the area covered by this guidance document:
the System 6 and southern Swan Coastal Plain areas.

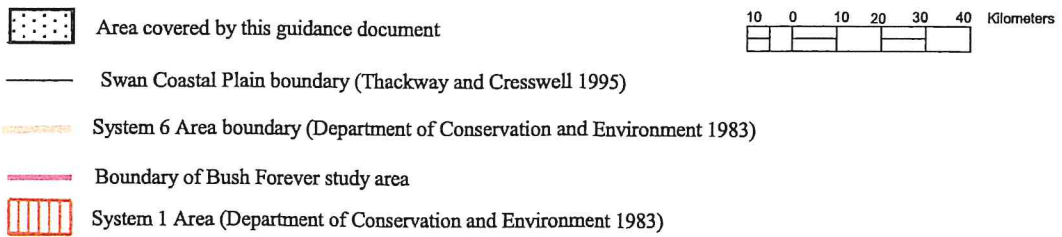
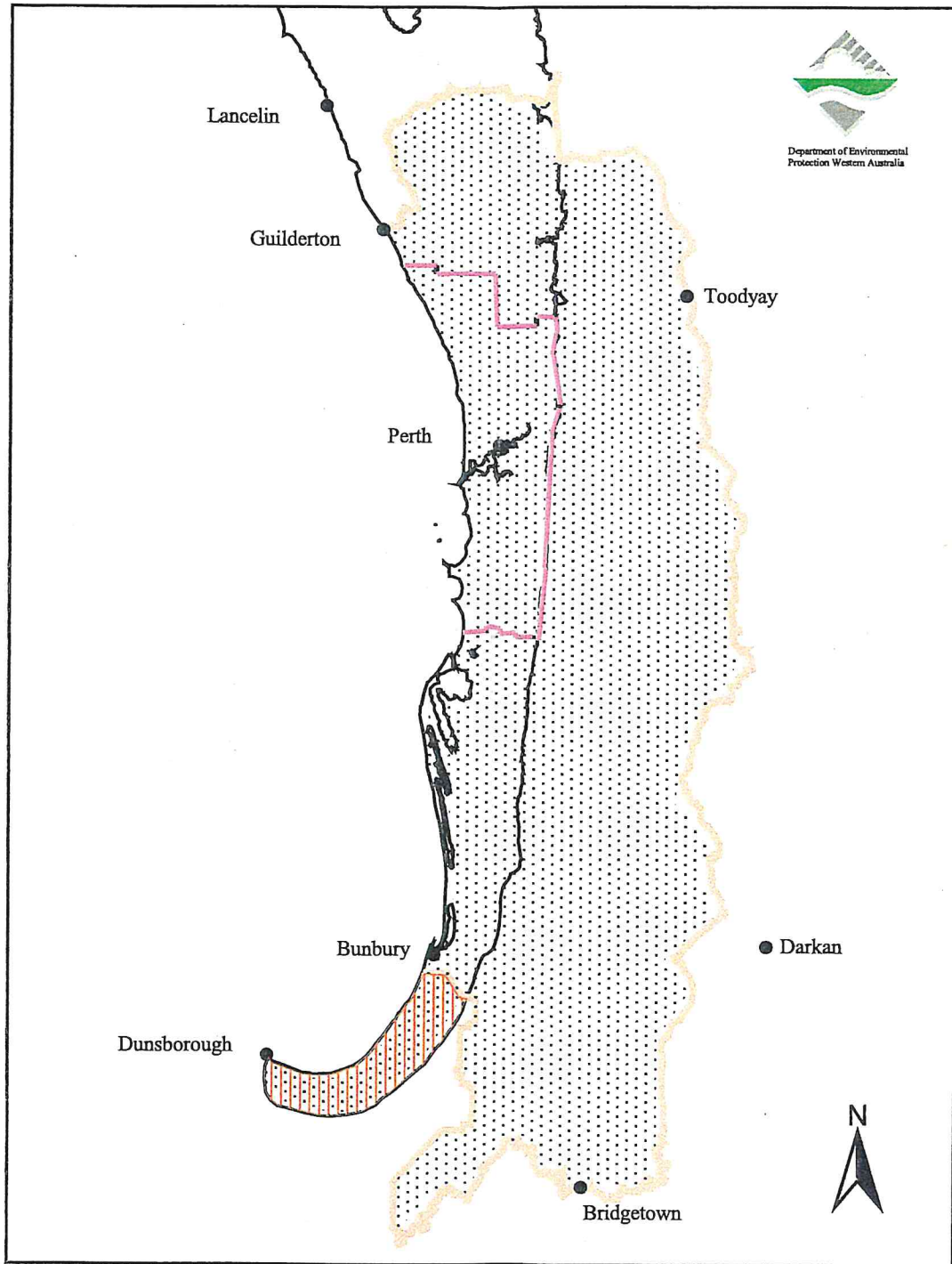


Table 1: Proposals that would impact on draft Bush Forever¹ Sites (within the Bush Forever study area)		
Category of Bushland	Impact of proposal	Likely level of assessment
Bush Forever Sites with some existing protection or proposed Parks and Recreation Reserves.	Proposals that would result in direct loss of bushland.	Formal EIA/PUEA (unless proposal is redesigned to avoid direct loss).
Bush Forever Sites proposed for protection through a 'negotiated planning solution' (ie. zoned urban deferred, urban or industrial or with development approvals) or 'strategic negotiated planning solution'.	Proposals that would result in direct loss of bushland.	Assessment unlikely if proposal achieves a reasonable outcome (page 13) expected through Bush Forever. See Appendix 4 for decision process.
Bush Forever Sites proposed for protection through complementary mechanisms (ie. zoned rural).	Proposals that would result in direct loss of bushland.	Formal EIA only likely if proposal would impact significantly on bushland. Normally EPA would expect a reasonable outcome (page 13) through complementary mechanisms.
Bush Forever Sites proposed for protection through Basic Raw Materials, Cemeteries, Other Government Lands, Local Reserves, Major Road/Rail Reserves & Creekline mechanisms.	Proposals that would result in direct loss of bushland.	To be considered on a case by case basis. EPA would expect proposals to be designed to minimise or avoid direct loss of bushland consistent with Bush Forever objectives.
Bush Forever Sites subject to minor potential impacts.	Proposals affecting cleared areas that do not conflict with the intent of the recommendation.	Not assessed or informal advice if likely indirect impacts.
	Proposals that have a small impact on a very large recommendation area, where these impacts do not threaten the intent of the recommendation.	Informal advice.
	Proposals consistent with a published management plan for a site.	Normally not assessed.
Areas adjacent to Bush Forever Sites.	Proposals adjacent to bushland but which will have significant impact on key conservation values if developed as proposed.	Formal EIA/PUEA (unless proposal is redesigned to avoid significant impacts).
	Proposals adjacent to bushland but which will have minimal impact on conservation values if developed as proposed.	Not assessed or informal advice if likely indirect impacts.

¹ Bush Forever is a report, prepared by the Government of Western Australia (2000), which identifies areas of regional significance for conservation within the Swan Coastal Plain portion of the Perth Metropolitan Area.

Table 2: Proposals that would impact on System 6², System 1³ recommendations (outside Bush Forever study area)

Category of Bushland	Impact of proposal	Likely level of assessment
System 6, System 1 recommendation areas	<ul style="list-style-type: none"> Proposals within or adjacent to a recommendation area that would result in direct loss of bushland 	<ul style="list-style-type: none"> Formal EIA/PUEA.
	<ul style="list-style-type: none"> Proposals affecting cleared areas that do not conflict with the intent of the recommendation 	<ul style="list-style-type: none"> Not assessed or informal advice.
	<ul style="list-style-type: none"> Proposals adjacent to bushland but which have minimal impact on conservation values if developed as proposed 	<ul style="list-style-type: none"> Not assessed or informal advice.
	<ul style="list-style-type: none"> Proposals that have a small impact on a very large recommendation area, where these impacts do not threaten the intent of the recommendation 	<ul style="list-style-type: none"> Informal advice
	<ul style="list-style-type: none"> Proposals consistent with the EPA Systems recommendation and consistent with a published management plan. 	<ul style="list-style-type: none"> Normally not assessed

Table 3: Proposals that would impact on regionally significant bushland outside Bush Forever study area and not subject to System 6 and System 1 recommendations (see glossary page 12)

Category of Bushland	Impact of proposal	Likely level of assessment
Regionally significant bushland, outside Bush Forever study area and not subject to System 6 and 1 recommendations, identified through systematic survey as meeting the regionally significant criteria (Appendix 4)	<ul style="list-style-type: none"> Proposals that would result in direct loss of bushland. 	<ul style="list-style-type: none"> Formal EIA.

² System 6 is a report, prepared by the DCE (1983) that identifies areas of conservation significance within the area identified in Figure 1.

³ This refers to the Swan Coastal Plain portion of System 1 report (DCE 1976).

Table 4: Proposals that would impact on threatened communities & species (not included in Bush Forever Sites or System 6 and System 1 recommendations)		
Category of Bushland	Impact of proposal	Likely level of assessment
Threatened Ecological Communities (English & Blyth 1997, see glossary page 13) assessed through a procedure coordinated by CALM.	<ul style="list-style-type: none"> Proposals that would result in direct loss of bushland. 	<ul style="list-style-type: none"> Formal EIA/PUEA.
	<ul style="list-style-type: none"> Proposals adjacent to bushland but which have minimal impact on conservation values if developed as proposed. 	<ul style="list-style-type: none"> Informal advice
Threatened or poorly reserved plant communities outside Bush Forever study area (EPA 1994, see glossary page 12) recognised and mapped by the EPA (1994)	<ul style="list-style-type: none"> Proposals that would result in direct loss of bushland. 	<ul style="list-style-type: none"> Formal EIA/PUEA.
	<ul style="list-style-type: none"> Proposals adjacent to bushland but which have minimal impact on conservation values if developed as proposed. 	<ul style="list-style-type: none"> Informal advice
Vegetation complexes where less than 10% of the complex remains vegetated in the Perth Metropolitan Area⁴ (Government of Western Australia 2000)	<ul style="list-style-type: none"> Proposals that would result in direct loss of bushland. 	<ul style="list-style-type: none"> Formal EIA/PUEA.
	<ul style="list-style-type: none"> Proposals adjacent to bushland but which have minimal impact on conservation values if developed as proposed. 	<ul style="list-style-type: none"> Informal advice
Bushland supporting populations of threatened flora and fauna	<ul style="list-style-type: none"> Proposals that would result in loss or partial loss of threatened species populations 	Managed by CALM under the Wildlife Conservation Act. (CALM may refer to the EPA)

⁴ It is expected that these would generally be protected through the planning or clearing control processes. EPA would oppose clearing proposals in rural zoned lands through the MOU process (Agriculture WA 1997).

Referral documentation

In order for the EPA to set a level of EIA on a proposal proponents should, in the referral documentation, include the following information:

- the nature and extent of the proposal;
- a precise boundary description of the regionally significant bushland habitat involved, including the area likely to be impacted;
- a description of the environmental values of the bushland including its regional context;
- a review of site selection options and project design elements; and
- why the development needs to impact on regionally significant bushland.

Preliminary determinations of the environmental values of bushland should include consideration of the following key sources of information:

- Bush Forever (Government of Western Australia, 2000);
- Perth's Bushplan (Government of Western Australia, 1998);
- Identifying and Conserving Threatened Ecological Communities in the South West Botanical Province (English and Blyth 1997, 1999);
- Wetlands of the Swan Coastal Plain Vol. 2B: Wetland Mapping, Classification and Evaluation Atlas (Hill *et al.*, 1996 a,b);
- Threatened and Poorly Reserved Plant Communities requiring interim protection - for the Swan Coastal Plain (preliminary maps) (EPA, 1994);
- A Floristic Survey of the southern Swan Coastal Plain (Gibson *et al.*, 1994);
- Environmental Protection (Swan Coastal Plain Lakes) Policy (Government of Western Australia, 1992);
- Conservation Reserves for Western Australia. The Darling System - System 6. Parts 1 and 2. Report 13. (DCE, 1983);
- Vegetation of the Darling System in Atlas of Natural Resources, Darling System, Western Australia (Hedde *et al.*, 1980); and
- Conservation Reserves for Western Australia. System 1, 2, 3, 5. (DCE, 1976).

3.2 Guidance for Achieving Desired Outcomes

Measures/methods

When considering proposals with the potential to impact on bushland in the Guidance area, the EPA will normally determine the level of assessment by applying the criteria outlined in Tables 1 - 4.

4. APPLICATION

4.1 Area

This Guidance Statement applies to all applications impacting on regionally significant bushland within the System 6 and southern Swan Coastal Plain region (see Figure 1), other than areas subject to the RFA, and shall apply to all new proposals.

4.2 Duration and Review

To apply until superceded by the final Guidance Statement. The final Guidance Statement will normally apply for 5 years before review – but may be reviewed earlier.

5. RESPONSIBILITIES

5.1 Environmental Protection Authority Responsibilities

The EPA will apply this Guidance Statement during the assessment of proposals under Part IV of the *Environmental Protection Act 1986* where bushland within the System 6 and southern Swan Coastal Plain region is being impacted.

5.2 Department of Environmental Protection (DEP) Responsibilities

The DEP will assist the EPA in applying this Guidance Statement in EIA and in conducting its functions under Part V of the *Environmental Protection Act 1986*.

5.3 Proponent Responsibilities

Where proponents demonstrate to the EPA that the requirements of this Guidance Statement are incorporated into proposals, in a manner which ensures that they are enforced and audited, the assessment of such proposals is likely to be assisted.

6. DEFINITIONS AND ABBREVIATIONS

Definitions

Adequacy

The ability of a reserve/reserve system to maintain the ecological viability and integrity of populations, species, and communities (Commonwealth of Australia, 1996).

Note: The interactions between reserves and surrounding areas should be taken into account in determining the reserve's ability to meet ecological viability and integrity criteria. Complementary management of the adjacent areas can play a significant role. In some instances, however, the ecological viability of the protected area itself will be paramount.

Bushland

Land on which there is vegetation which is either a remainder of the natural vegetation of the land, or, if altered, is still representative of the structure and floristics of the natural vegetation, and provides the necessary habitat for native fauna (Bush Forever, Government of Western Australia, 2000). For non-bushland communities, eg open water, the definition of ecological communities is included in the interpretation for the purpose of this document.

Comprehensiveness

The degree to which the full range of ecological communities and their biological diversity are incorporated within reserves (Commonwealth of Australia, 1996).

Ecological communities

Naturally occurring biological assemblage that occurs in a particular type of habitat.

Note: The scale at which ecological communities are defined will often depend on the level of detail in the information source, therefore no particular scale is specified (English and Blyth, 1997, 1999).

Floristic community type

Floristic assemblages as defined by Gibson *et al.* (1994) and the DEP (1996). The presence or absence of individual taxa in standard areas (plots, sites, quadrats) is used to define floristic groupings based on shared species.

Forest Management Plan 1994 - 2003 conservation areas

Those existing and proposed National Parks, Nature Reserves, Conservation Parks and Section 5(g) CALM Act Reserves identified in the Forest Management Plan 1994 - 2003 (CALM, 1994).

Bush Forever Sites

Those specific localities as listed in Bush Forever as endorsed by Cabinet (Government of Western Australia, 2000).

Proposal Unlikely to be Environmentally Acceptable (PUEA)

PUEA – an expedited formal assessment with the intention for the EPA to advise that the proposal not be implemented (Administrative Procedures for EIA).

Reasonable outcome

The definition of a reasonable outcome will vary depending on the type of implementation mechanisms proposed within Bush Forever:

Sites recommended for Reservation and Purchase or with Some Existing Protection

Reasonable outcome is where 100% of the site identified is reserved for conservation.

Sites recommended for Negotiated Planning Solutions (NPS)

(Urban, Urban Deferred and Industrial zoned land)

Reasonable outcome is where the core (highest conservation value) area/s and threatened ecological communities are protected. The objective is to protect as much bushland as possible in identified NPS sites. The DEP has a technical role in advising on the core areas and threatened ecological communities.

Sites recommended for Strategic Negotiated Planning Solutions (SNPS)

(For land zoned other than rural in the Metropolitan Region Scheme and subject to local structure planning or rural zoned land subject to district or regional planning) Reasonable outcome is where the bushland is protected and retained (usually in its entirety) as the result of future development being coordinated in areas of multiple ownership.

Sites recommended for Complementary Mechanisms (generally Rural)

Reasonable outcome is where the bushland area is retained and protected with clearing confined to a building envelope on bush blocks, or clearing envelopes and strategic fire breaks associated with conservation compatible cluster development on larger blocks.

The reasonable outcome will also take into account the Policy Measures for Implementation in Bush Forever 'There will be a general presumption against clearing bushland containing threatened ecological communities or representation of vegetation complexes of which less than 10% remains in the Perth metropolitan Swan Coastal Plain (generally involving vegetation complexes on the eastern side of the Swan Coastal Plain (Government of Western Australia, 2000))'.

Regionally significant bushland

A component of remnant vegetation that collectively aims to form a CAR system of conservation areas. In order to establish whether bushland areas fall into this category they need to be either part of the existing or proposed conservation system or to meet, in part or whole, a range of criteria which are outlined in Appendix 3 to this document (Government of Western Australia, 2000).

Representativeness

The extent to which areas selected for inclusion in the national reserves system are capable of reflecting the known biological diversity and ecological patterns and processes of the ecological community or ecosystem concerned (Commonwealth of Australia, 1996).

System 1 areas

Those specific localities (on the Swan Coastal Plain) as listed in The South West - System 1 in Conservation Reserves for Western Australia. Systems 1, 2, 3, 5, as recommended by the EPA (DCE, 1976).

System 6 areas

Those specific localities as listed in The Darling System - System 6 Part II Recommendations for Specific Localities Report 13 Conservation Reserves for Western Australia as recommended by the EPA (DCE, 1983).

Threatened or poorly reserved plant communities

Communities that have been recognised and mapped by the EPA (1994). This series of bushland areas on the Swan Coastal Plain was considered to be in need of interim protection under the System 6 and Part System 1 Update Program. The majority of these areas are on the eastern side of the Swan Coastal Plain, with several from the west of the Plain. Studies by Keighery and Trudgen (1992) and Gibson *et al.* (1994) were used to identify these areas. Bush Forever Sites update and supersede the Threatened and Poorly Reserve Plant Community Sites within the study area.

Threatened ecological communities

Those (ecological communities) that have been assessed through a procedure (coordinated by CALM) and assigned to one of the following categories related to the status of the threat to the community. The categories are "Presumed Totally Destroyed", "Critically Endangered", "Endangered" or "Vulnerable" (English and Blyth, 1997, 1999). One of the criteria used to determine the categories is an estimate of the geographic range and/or the total area occupied and/or the number of discrete occurrences reduced since European settlement, where $\leq 10\%$ is Critically Endangered and $\leq 30\%$ is Endangered.

On the Swan Coastal Plain a number of floristic studies (Gibson *et al.* 1994, Keighery and Keighery 1995, DEP 1996) and fresh water organism studies (Ahmat 1993, Moore 1993, Jasinska and Knott 1994, 1995 and Jasinska 1997) have delineated ecological communities in a form adequate for assessment (Government of Western Australia 2000). 18 of the floristic community types identified by Gibson *et al.* (1994) have been assessed and determined to be threatened ecological communities.

Vegetation complex

As defined by Heddle *et al.* (1980) in relation to the landform - soil units determined by Churchward and McArthur (1980). The delineation of vegetation complexes is based on the concept of a series of vegetation associations forming regularly repeating complexes associated with a particular soil and landform unit.

Abbreviations

CALM	Department of Conservation and Land Management
CAR	Comprehensive, adequate and representative
CER	Consultative Environmental Review
DCE	Department of Conservation and Environment (now DEP)
DEP	Department of Environmental Protection
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
IBRA	Interim Biogeographic Regionalisation of Australia
MfP	Ministry for Planning
NPNCA	National Parks and Nature Conservation Authority (now Conservation Commission)
NPS	Negotiated planning solution
PER	Public Environmental Review
PMA	Perth Metropolitan Area
PUEA	Proposal Unlikely to be Environmentally Acceptable
RFA	Regional Forest Agreement
WAPC	Western Australian Planning Commission
WRC	Water and Rivers Commission

7. LIMITATIONS

This Guidance Statement has been prepared by the EPA to assist proponents and the public. While it represents the contemporary views of the EPA, each proposal which comes before the EPA for EIA will be judged on its merits. Proponents who wish to deviate from the Guidance provided in this document should provide robust justification for the proposed departure.

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Status

Signed-off by the EPA at this stage for stakeholder and public review

Citation

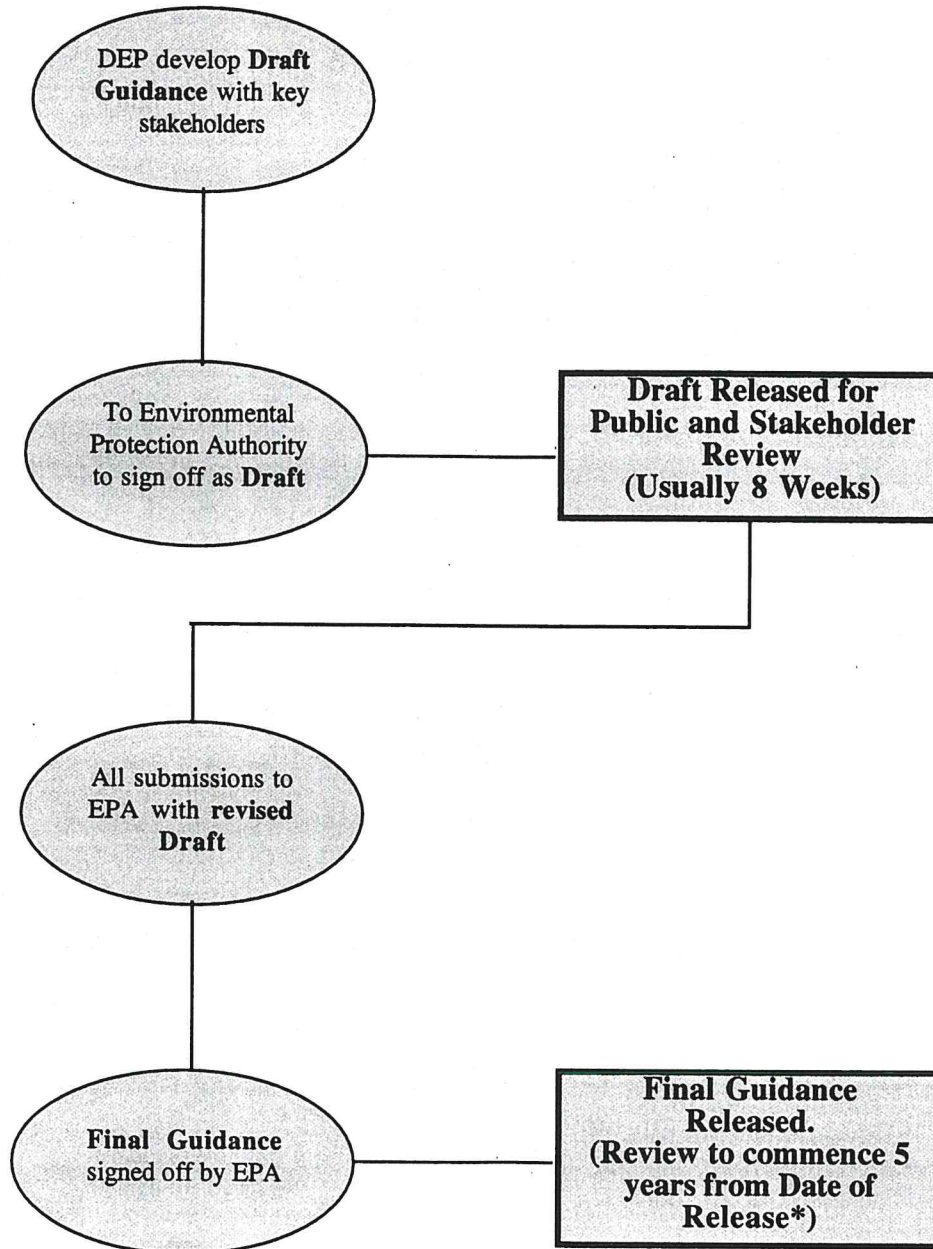
This document cannot be cited at this time but may be used by the EPA for the purposes of EIA with respect to this factor.

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Appendix 1

Generic Flow Diagram for the Guidance Statement Process



* Guidance may be reviewed earlier if circumstances require it.

Appendix 2

EPA's Position (26 August 1999) on the implementation of Bush Forever

After discussion on the EPA's involvement in Bushplan (now Bush Forever) implementation, the EPA resolved to adopt the recommendations as set out below:

1. The *Environmental Protection Act 1986* provides for a referral to the EPA of any environmentally significant proposal.
2. The EPA has signed off on the draft Bushplan as a way forward for the Government to preserve regionally significant native vegetation within the Swan Coastal Plain area of the Perth Metropolitan Region. Accordingly, the EPA's preferred position is that Bushplan (now Bush Forever) be implemented in accordance with the published draft Bushplan.
3. The Government officers responsible for the implementation of Bushplan (now Bush Forever) will presumably have a preferred position of maximising the protection of regionally significant native vegetation. However, the EPA recognises that to achieve this there will be negotiated outcomes resulting from discussions between the Government officers responsible for the implementation of Bushplan (now Bush Forever) and the owners of Bushplan (now Bush Forever) Sites. The basis upon which that negotiation takes place is outside the role of the EPA, and the EPA would not want to be involved in the negotiations. The EPA would expect the Government officers responsible for the implementation of Bushplan (now Bush Forever) and the WAPC to use their best endeavours to ensure a satisfactory outcome in relation to the preservation of the Bushplan (now Bush Forever) Sites.
4. Referrals to the EPA may come through a number of avenues. For some referrals, a Bushplan (now Bush Forever) Site may be the only relevant factor but for others it may be one of a number of relevant factors. In considering the relevant factor of Bushplan (now Bush Forever) Site, the EPA would want to take advantage of the expertise of Government officers responsible for implementation of Bushplan (now Bush Forever). Accordingly, it would seek advice from these Government officers as well as from other experts.
5. If there is a referral of a Bushplan (now Bush Forever) Site to the EPA from the MfP, it would need to be accompanied by a full array of documentation of the matters considered and positions reached in attempting to arrive at a satisfactory outcome in relation to the preservation of the Bushplan (now Bush Forever) Site being considered. Referrals would indicate that a satisfactory outcome had not been achieved; and the EPA would be likely to recommend to the Minister for the Environment that the *Environmental Protection Act 1986* be used to achieve the outcome set out in Bushplan (now Bush Forever).

Appendix 3

Criteria for the determination of the Regional Significance of Bushland Areas (*Bush Forever*, Government of Western Australia, 2000)

Need further guidance on how these are to be used!

REPRESENTATION OF ECOLOGICAL COMMUNITIES

A number of areas selected to represent the range of ecological communities and the places in which these communities merge

Scope

Regional representation will be primarily based upon the target of achieving:

- comprehensive and adequate representation of each floristic community type within each vegetation complex (in uplands and vegetated wetlands)
- comprehensive and adequate representation of each natural wetland group and wetland types within each group.

Inclusion guidelines

- Areas which are good examples of each floristic community type, selected to be representative of the vegetation of a geomorphic unit ✓
- Areas contributing to at least 10% or 400 hundred hectares (in the Perth Metropolitan Area) of each vegetation complex, whichever is the larger, in at least five separate areas. Outside the metropolitan area the figure is expected to be higher and may vary regionally to reflect regional biodiversity. Note the 20% minimum requirements for retaining bushland in agricultural areas for soil & land conservation purposes. — X
- Best available examples of each natural wetland group and wetland types within each group — which are those
- Areas identified as being of national or international significance through treaty/convention/policy. — Don't exist!

Exclusion guidelines

- Vegetation which does not satisfy the definition of bushland (unless it is the best example of its type with particular reference to fauna habitat)
- Areas which are not best available examples of particular ecological communities (floristic community types/vegetation complexes/threatened ecological communities) because there are more appropriate (bigger, better condition, richer/more diverse) sites elsewhere.

DIVERSITY

dropped from selection criteria after expert review.

Areas with a high diversity of flora and/or fauna species/or communities in close association.

Scope

The conservation of important areas by virtue of their richness, diversity or complexity for their physical or biological attributes at the community, species or genetic level. This will be primarily based on areas supporting:

- a wide variety of flora and/or fauna species
- unusual concentrations of subspecies or varieties occurring together
- wide representation of floristic community types in close proximity ✓
- species-rich examples of communities of their type ✓
- a wide variety of plant associations, assemblages or communities. ✓

This criterion will commonly support other criteria for selection of representative areas.

Inclusion guidelines

- Areas with high flora diversity at the community, species or genetic level
- Areas with a high diversity of plant associations, assemblages or communities relative to the area
- Areas with a high diversity of faunal assemblages.

Exclusion guidelines

- Floristic community types which are replicated in many areas
- Areas with low to moderate diversity at the community, species or genetic level.

(But these can be very important)

RARITY

Areas containing rare or threatened communities or species, or species of restricted distribution

Scope

This criterion applies to aspects of the environment which are rare or relatively rare, and can encompass any environmental, biological or ecological feature or phenomenon which can be regarded as outstanding because it is one of the few of its type.

Inclusion guidelines

- Threatened ecological communities
- Habitat of rare, uncommon or restricted flora and/or fauna species and/or species outside of or at the limit of their range
- Areas supporting rare, uncommon or restricted communities and/or communities outside of or at the limit of their normal range.

Exclusion guidelines

- Habitats of species or communities whose significance (as described above) is not established.
- Areas, which if supporting outlying species or communities, are replicated by better examples elsewhere.

MAINTAINING ECOLOGICAL PROCESSES OR NATURAL SYSTEMS

Maintenance of ecological processes or natural systems at a regional or national scale

Scope

This criterion applies to areas which are important in the maintenance of existing processes or natural systems. This criterion would normally be used in conjunction with other criteria for the selection of representative areas.

Inclusion guidelines

- Large areas in natural condition with natural processes intact or largely so
- Fauna habitats providing specific requirements for feeding/breeding/nursery functions
- Substantive wildlife corridors connecting bushland areas
- Habitat for significant populations of migratory birds.

Exclusion guidelines

- Areas which are replicated by other areas supporting significant populations or in better condition
- Areas not recognised as being of national or international significance for migratory birds.

SCIENTIFIC OR EVOLUTIONARY IMPORTANCE

Areas containing evidence of evolutionary processes either as fossilised material or as relict species and areas containing unusual or important geomorphological or geological sites; Areas of recognised scientific and education interest as reference sites or as examples of the important environmental processes at work

Scope

This criterion applies generally to areas which contain evidence of past ecological or biological processes, and important geomorphological or geological sites and to areas which have recognised value as research sites, type localities or to sites having reference or benchmark value. This criterion will usually support other criteria for selection of representative areas.

Inclusion guidelines

- Areas with remains of flora and fauna now extinct (fossil sites)
- Areas with primitive or relict flora or fauna surviving from earlier times
- Areas with fossil or other records of identifiable past climates or environments
- Long-term scientific/educational monitoring sites or study areas.

Exclusion guidelines

- Areas in which the evidence of past processes is not clearly established
- Areas which are replicated by places with clearer evidence of the above or in better condition
- Areas not identified as important geomorphological sites
- Areas not identified as important geological sites.

GENERAL CRITERIA FOR PROTECTION OF WETLAND, STREAMLINE, AND ESTUARINE FRINGING VEGETATION AND COASTAL VEGETATION

Conservation category wetland areas including fringing vegetation and associated upland vegetation; Coastal vegetation within the accepted coastal management zone

Scope

This criterion applies to wetlands in good condition, their fringing vegetation and adjacent upland vegetation and to coastal vegetation within the accepted coastal management zone.

Inclusion Guidelines

- Conservation category wetlands associated with regionally significant bushland, their fringing vegetation and associated upland vegetation
- Coastal vegetation within the accepted coastal management zone

Exclusion Guidelines

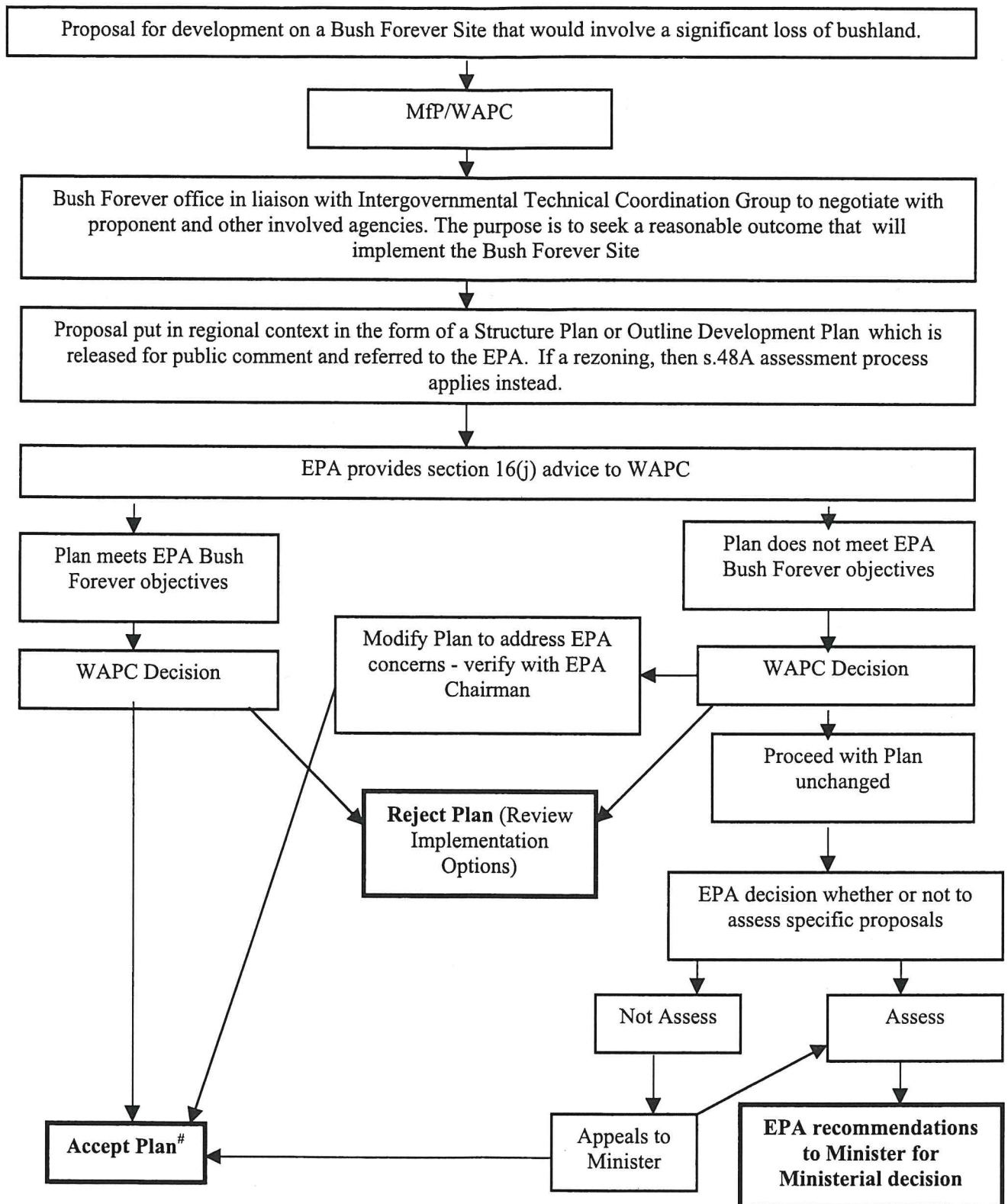
- Conservation category wetlands not associated with regionally significant bushland (to be dealt with by other State policy mechanisms)
- Channel wetlands not supporting regionally significant bushland
- Resource enhancement category wetlands and degraded conservation category wetlands
- Other wetlands with vegetation removed or severely altered, such as multiple-use management category wetlands
- Cleared or developed coastlines and estuarine fringes.

**CRITERIA NOT RELEVANT TO DETERMINATION OF REGIONAL SIGNIFICANCE,
BUT WHICH MAY BE APPLIED WHEN EVALUATING AREAS HAVING SIMILAR
VALUES**

*Attributes which taken alone do not establish regional significance, but which can add to
the value of bushland and enhance its regional significance*

- The area is a regional recreation resource.
- The area is of historic significance or contains significant sites (post-European settlement).
- The area contains a site or sites of significance for Aboriginal people.
- The area has social value to a community group.
- The area has aesthetic value as a notable landscape feature or viewpoint.

Appendix 4: Flow diagram showing how Development Proposals involving Bush Forever Sites to be implemented by Negotiated Planning Solutions will proceed



EPA would not normally assess subsequent proposals (even if referred by a third party) assuming consistency with Structure Plan/Outline Development Plan