3-D EVALUATION OF PEEL-HARVEY

CATCHMENT MANAGEMENT ISSUES

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16 May 1990

3-D EVALUATION OF PEEL-HARVEY CATCHMENT MANAGEMENT ISSUES

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PREAMBLE

(NOTE: This is the initial working framework and will no doubt change greatly)

WHAT IS THE 3-D PROCESS?

The Three Dimensional Evaluation Process was originally developed by the Minster for Agriculture, the Hon. Ernie Bridge, as a mechanism to "identify impediments to industries and to enable participants to reach their full potential" (see attached leaflet).

This process, which started as an industry and marketing evaluation process, is being adapted to operate effectively over a geographical area, the Peel-Harvey Catchment. There are three key aims of it's operation in that catchment:

* to provide a direct conduit between participating stakeholders and the Minister for Agriculture, and through him to State Cabinet.

* to assist participating stakeholders to identify and outline all issues relevant to the implementation of catchment management strategies.

* to assist participating stakeholders to identify and remove impediments to the development of effective catchment management strategies.

The Peel-Harvey 3-D is being managed by part time consultant Keith Bradby, in close collaboration with the 3-D Unit in the Minister's office, which is headed by Robyn Turner. Participation in the process is offered to any stakeholder wishing to work, in a positive, practical and co-operative manner, on the issues of the catchment.

It has not yet been possible to identify, let alone talk with, all stakeholders. This is hardly surprising given the complexity of the issue and the number of individuals and organizations involved. It is hoped that this paper, and subsequent drafts, will be a useful mechanism for involving all stakeholders in the management of the Peel Harvey Catchment.

And, of course, the 3-D is neither a beginning point or an end point. Catchment management, in it's various forms, has always occurred. Catchment management procedures specifically for the reduction of phosphorus flow to the estuary have been under development since 1976. The 3-D is an opportunity for us all to step back from these daily details and clarify the key issues. However, the world doesn't stop for any of us.

Many of the strategies identified in this draft were being developed by others when we stumbled on them. Additionally, many of the issues identified have been acted upon during the writing of the draft. This does not imply any disrespect for the input of people who have not yet been involved, it merely reflects the urgency of the situation. Where the 3-D unit can clearly be of assistance, it has assisted.

HOW TO USE THIS DRAFT

This is the first of a number of drafts that will be prepared. The first critical rule of having your say is to talk. Keith Bradby, who enjoys a yarn, can generally be contacted on 09 472 3192 or at the Minister's office on 09 222 9560. If he proves to be a bit elusive, leave a message at the Minister's office. If he doesn't get back to you, scream blue murder.

Written messages can be sent via:

The 3-D Unit
Office of the Minister for Agriculture
3rd Floor, Capita Centre.
197 St. Georges Terrace,
Perth, 6000.

The issues and information presented in this draft is very tentative, and in some cases possibly wrong. My aim is to write the final report with your assistance, and all I've really presented here is a framework and some initial assumptions. Feel free to rip them to bits, rewrite them, modify them, agree with them - whatever you think appropriate. I've got a thick skin.

To help you find your way through this initial presentation, the evaluation is arranged under 3 main headings and a synopsis.

Section 1 aims to set out an acceptable goal for catchment management, crystallize the key environmental factors, and set out the main land uses and stakeholder groups. A flow chart of the evaluation structure is also included.

Section 2 is a precised list of opportunities and issues, plus a comment on what's happening with them. It is this list that we need to continually revise and upgrade. It is against this list we can contunually check our progress. Your additions and comments are especially welcome here.

Section 3 contains a series of loosely structured discussion papers on key topics. I felt this was the best way to explore issues with you. Comments please.

The Final Section contains a simple synopsis of the challenge we all face in implementing wise catchment management programmes. I then suggest two strategies for implementation.

Following this is an appendix of stakeholder groups, with contact names and addresses. I know it's incomplete, and probably full of inaccuracies. Again we need your help. Regular communication with the people and groups of the catchment is a critical part of the programme - yet we're still learning who you all are.

SECTION ONE

BASIC FRAMEWORK

The 3-D operates within the framework of government and community goals for catchment management on the Peel-Harvey system.

Broadly speaking, this goal is...

> To ensure that the PHES becomes clean, healthy and resilient and that it's beneficial uses are maintained or improved with minimal social or economic disruption to the existing communities in the catchment.

Aspects considered in this intitial phase of the evaluation fall under four main headings:

1.1 ENVIRONMENTAL FACTORS

High phosphorus mobility in catchment

- porous soil types
- intensive drainage, particularly man-made
- production systems that under-utilize water and fertilizer resources

Relatively closed estuarine system

- minimal "flushing"
- structure and chemistry suiting weed and algal growth

High visibility

- flanking urban development
- high tourist use
- traditional recreational use

Other values

- RAMSAR wetland

Economic (ie fishery, tourism) & environmental values of the estuary

1.2 FACTORS IN-BETWEEN

The catchment is going through a major period of urban and economic growth. This is making major changes to the traditional patterns of land use, and to the traditional social structure. Additionally, many of the traditional agricultural producers are coming under economic stress due to the lessening competitiveness of their industry.

Most of the primary industries of the catchment were established prior to the present concerns about their impact on the estuary. Their establishment was fully supported by society at large, and all industries followed the practices recommended, at the time, by the appropriate government bodies.

We're not too sure where the above two points fit into this 3-D evaluation, but consider them very important for people considering the future of the catchment to bear in mind.

1.3 STAKEHOLDER GROUPS

(Please add groups we have missed so far. A detailed list of groups and addresses is also being compiled)

PRIMARY PRODUCERS

Land Conservation Groups — Meredith
Serpentine/Jarrahdale
Coolup

Serpentine Murray Rural Landholders Committee

North Murray Farm Improvement Group

WA Farmers Federation — Harvey Zone
Branches

Pastoralists and Graziers Association

Market Gardeners Association

WA Vegetable Growers Association

Floriculture and Nurserymans Association

WA Pig Producers Association

LAND DEVELOPERS - REIWA?

UDIA
Land Economists

LOCAL GOVERNMENT	Kwinana Harvey Mandurah Murray Rockingham Serpentine/Jarrahdale Waroona
PEEL INLET MANAGEMENT AUTHORITY	
MINING/INDUSTRIAL	Alcoa Cable Sands Westralian Sands Ravensthorpe Mining
PROFESSIONAL FISHERMEN	
TOURISM/COMMERCE	Tourist Bureaus
ENVIRONMENTAL GROUPS	Royal Australian Ornithologists Union Peel Preservation Society
RECREATIONAL USERS	Fishing Boating Passive
STATE GOVERNMENT	Ministers for Agriculture, Transport and Environment EPA (Ministerial conditions, waterway pollution) Waterways Commission (water monitoring, estuary management) Water Authority of WA (ground water management, sewage, drainage) SW Development Authority (regional development) Department of Agriculture (catchment management, agricultural production) CALM (tree planting, reserves) Department of planning and urban development (rural strategies, urban planning) Department of Marine and Harbours (Dawesville Cut) ICMPG Bush Fires Board

ACF cons council

PMA

natural cons issues outside reserves eg waterbirds

"Which hand d'you wish to be served from—left or right?!"

PEEL-HARVEY 3-D EVALUATION PROCESS

INFORMATION FLOW

STATE CABINET

MINISTER FOR AGRICULTURE

3-D UNIT AND PEEL HARVEY 3-D CONSULTANT

MAIN AVAILABLE INFORMATION

Collation of published reports etc

MAIN SOURCES OF ADVICE

Landholder groups
Local Gov't authorities
Ag Department
EPA
PIMA
CALM
WAWA
WWC
Peel Preservation Group

KEY STAKEHOLDERS

Health of the estuary
Broadacre producers
Intensive animal industries
Horticulturists
Recreational users
Residents (part and full time)
Tourism operators
Local business
Land developers
Professional fishermen
Amateur fishermen
Mining
Industry
State Government
Local Government

INTERACTING GROUPS

DPUD
MRD
WESTRAIL
BFB

PROJECTS

Less wasteful broadacre fertilisers
Piggery effluent management prog.
Horticulture management programme
Land capability studies
Development of EPP
Various tree planting programmes
Development of perennial pastures
Ag. Dept communications programme
Phosphorus flow monitoring

OPPORTUNITIES

Dawesville Cut
Smallholder involvement campaign
Suburban involvement campaign
Effluent management programmes for feedlots, and horticultural areas
Remnant vegetation protection and rehabilitation assistance
Wetlands creation
Drain management for "P" reduction
Urban run-off management
Diversified timber production
Septic/sewerage treatment

ISSUES

How good is the data?
Nth Dandalup Dam
Governmental processes
Subdivision processes
Urban P inputs
Consistency
Grasshoppers
Jargon

SECTION TWO

SUMMARY OF OPPORTUNITIES AND ISSUES

(in no particular order)

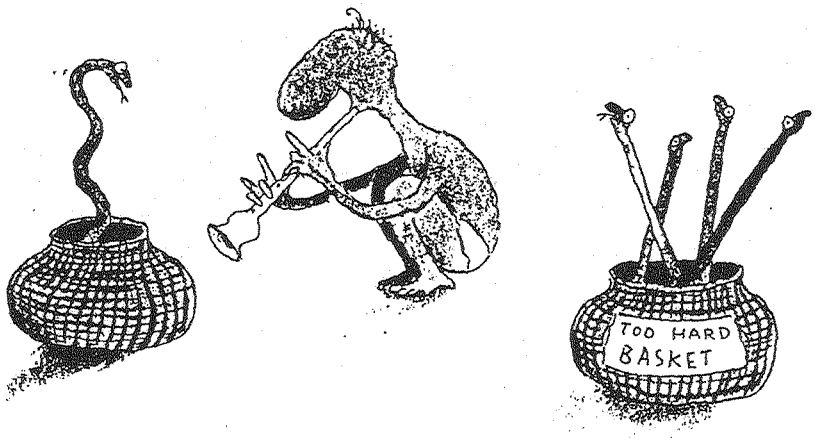
OPPORTUNITY/ISSUE	STATUS	ACTION
Soil mapping - is it accurate & adequate?	Detailed Land Capability Study for catchment almost completed Classifications possibly need regrouping and simplifying for on-farm use.	Simplification to be discussed when initial mapping completed. (WADA)
Drainage modification to minimise "P" flow	WAWA preparing overall strategy. Two experimental modifications at the design stage. Discussion on others ongoing (see 3.1)	Continual follow-up required. (WAWA, WADA, WWC, Meredith LCD, Serp/Murray RLC)
Nth Dandalup Dam - effect on eutrophication	Detailed analysis conducted by WAWA. Their claim of negligible impact disputed by some members of public. (see 3.6)	Ongoing discussions
New Coastal Super -is it better?	New super released April 1 - now undergoing trial	Ongoing evaluation and extension (WADA, CSBP)
Governmental processes - how do communities have input?	Present mechanisms widely perceived as inadequate (see 3.7)	Reorganization proposed in 3-D synopsis and strategy proposal Under review
Phosphorus flow data - is it meaningful in an on-farm management basis? (see discussion paper)	Not meaningful at present. WWC upgrading programme in cooperation with stakeholders. (see 3.6)	More resources needed

OPPORTUNITY/ISSUE	STATUS	ACTION
Is critical water flow criteria well defined?	Base assumptions under intensive review at present following WADA consultancy results (see 3.6)	Review almost completed (WAWA, WADA)
Subdivisions - are they environmentally based and equitably planned?	A massive issue the 3-D has not yet investigated properly. High conflict potential (see 3.3 & 3.7)	Hovering (LGA, DPUD, EPA, WAWA PIMA, WADA and most other people)
Horticulture - what's it's future in catchment?	WADA implementing range of programmes aimed at minimizing P loss through lower application rates & more efficient watering	Ongoing programme - needs constant review (WADA, EPA)
Piggeries - can they continue in catchment?	Piggeries Management programme underway - cooperative venture between WADA & WAPPA. Initial results very promising	Ongoing programmes - needs constant review
Special rural areas - how responsibly are fertilizer and manure being handled on these?	No programme yet	Action needed
Suburban areas - how responsibly do they manage P run-off?	No programme yet	Action needed
Can perennial pastures be developed to increase water and P uptake and improve profit-ability?	Research programme being designed. Visit to existing systems by farmers undertaken Organisation of trials proceeding	Follow-up required Meeting to discuss directions for research planned (WADA)
Can artificial wetlands be created for wildlife and biological filter values?	Under discussion	? under what circumstances? eg following mining

EPA has produced interim guidelines which are in process of being distributed esp to DPUD + L Authorities

OPPORTUNITY/ISSUE	STATUS	ACTION
Is "Blue Gum" programme proceeding?	Tree Trust has not proceeded. Minimal plantings occurring Research proceeding on some alternative species (see 3.2)	Needs constant review (CALM, WADA)
Greater assistance for general farm tree planting	Range of small projects and trials underway. No coordinated programmes of assistance. Farmers largely fending for themselves (see 3.2)	Coordination and resources needed (WADA, Greening Aust, CALM, SWDA, S/JLCD, Meredith LCD, SMRLC)
Mass deaths of paddock trees occurring	No research ongoing (see 3.2)	Perhaps we just sit and watch this tragedy occur
Grasshoppers	These regularly devastate young tree plantings (see 3.2)	Upgraded research and extension programme needed (WADA)
Scientific and administrative jargon	This is often the only form of information available. Dep't of Ag programme rewriting underway (see 3.9)	Greatly increased use of understandable English required from all sources
Remnant Vegetation Protection	Some significant areas remain. Assistance with fencing and rate relief is obtainable, but not well known	Under discussion
Consistency in operation of clearing controls	A moratorium is in place. Clearing still occurs - mainly for subdivisions but also ad-hoc. Psuedo clearing, by burning and/or grazing is common	Review and action needed
Dawesville Cut	Still under negotiation at a departmental or Cabinet level	Decision pending

OPPORTUNITY/ISSUE	STATUS	ACTION
Role of various agencies	Abundance of agencies operating - no easy guide to the maze (see 3.9)	Needs attention
Sewerage	Many urban areas still on septics. Developments relying on sewerage. WAWA funds limited. Some Shires keen on alternative solutions (see 3.1)	Needs attention
Role of local government	Presently being squeezed between govt policy and ongoing development with no extra resources. Also possible overlap with some LCD roles (see 3.7)	Needs attention
Role of land tax in forcing urbanization	State taxation practices may be forcing changes in land use contrary to State Govt policies	Needs investigation
Supporting evidence on restrictions being imposed	Many local groups feel these are presently very inadequate	Needs attention


TOO HARD
BASKET

SECTION THREE

DISCUSSION PAPERS

The following papers come under a diverse number of titles, some of which are very different from the issues people may feel they presented me with.

Please excuse my attempt at synopsis. Whilst numerous issues have been discussed with me in great detail, I have chosen to outline what I see as the root of the problem first.

Specific issues we are assisting with, where possible, on a day by day basis. The intention is to outline their progress in greater detail "later on".

3.1 WATER MANAGEMENT

There are two critical early stages in the phosphorus story.

First is the application to the land of materials containing phosphorus - perhaps as superphosphate, animal manure, household detergent or similar. In many of the soil types of the Peel-Harvey catchment this phosphorus remains "mobile" in the soil.

The second stage is when this "mobile" phosphorus is transported to the estuary by excess water. Without this transport there would be no eutrophication problem. The so called "phosphorus" problem is actually a "phosphorus mobilized by water" problem.

This fact is already well recognised. For example, the value of greatly increasing tree plantings is to use up some of the excess water. Whilst it is of course recognised that you can't retain all run-off on-site, tree planting and a range of similar water focused programmes do lessen the volume of phosphorus entering the estuary.

The main government agency involved in managing water in the catchment is, naturally enough, the Water Authority of WA. Their responsibilities cover six main areas, two of which are discussed in more detail below.

From the beginning of the 3-D, farmers and shires have continually passed comment on the role of the Water Authority. A considerable amount of time has been spent in discussions with the Authority, and they are presently preparing a strategy relating to phosphorus and water transport.

The issue is a difficult one for the Authority. They have a responsibility to if not actually make a profit, then to keep losses to a minimum. Many of the issues being discussed have very wide implications for them in other regions.

Nevertheless, they already have some major environmental programmes running, and are establishing some experimental drain modifications as a result of this 3-D. It is expected that further issues will be acted upon as the 3-D proceeds.

Major areas of operation relevant to the Peel-Harvey are:

3.1.1 Drainage System

There is an extensive network of drains throughout the region. Although much of the country would be agriculturally unviable without them, there is a direct correlation with regional intensity of drainage and the amount of phosphorus leaving a particular area.

Needless to say, drains have a range of environmental

implications. In some situations farmers claim the soil is being overdrained, in other situations farmers wish to increase drainage density to alleviate salinity. Construction of the drainage system has also removed many of the smaller wetlands through the catchment.

Some earlier studies of drain modifications had been made, but these were generally related to large scale changes aimed at almost totally removing the phosphorus problem. None were adopted, as they appeared unfeasible. The prevailing philosophy now is to encourage small scale changes which can have a number of benefits, including phosphorus reduction.

There seem to be range of modifications possible that may have an effect of phosphorus. These include forming linear wetlands by placing weirs in drains, diverting drains away from the estuary, rejuvenating old wetlands, encouraging vegetation on drain banks, use of red mud or activated aluminium to trap phosphorus and possibly establishing biological filters.

The 3-D has already helped facilitate some negotiations on experimental projects with WAWA and both the Serpentine Murray Rural Landholders Committee and the Meredith LCD. Other projects are anticipated and suggestions are welcome.

The issue of drainage from urban areas has not been investigated yet. However, from initial discussions it does seem that there is considerable scope for redesigning drainage in future subdivisions. Particularly exciting is the possibility of eliminating nutrient run-off and creating viable wetlands by using large compensating basins as biological filters.

The Shire of Serpentine-Jarrahdale, which has just completed a major wetland study in conjunction with Murdoch University and the Water Authority, are particularly keen on this prospect. However additional resources are needed to "tie the package together".

3.1.2 Sewerage

This issue is obviously of critical importance in a catchment with such a high level of urban expansion, but has not yet been fully explored in this 3-D.

It is apparent however, that the need to sewer future urban developments, coupled with the high cost and present backlog of sewerage extensions, is causing considerable disruption to orderly development. The interest of both Serpentine-Jarrahdale and Murray Shires in alternative systems is to be encouraged.

One issue that has arisen is the need for more definitive information on the nutrient impact of septic systems on various soil types. This is of such critical importance that the existing vagueness is proving counter productive.

3.2 TREE ESTABLISHMENT

Trees, or any deep rooted vegetation, are of great value in controlling phosphorus run-off. Trees use more water than pasture, and the less water that travels from farmland to the estuary means less phosphorus transported to the estuary. Trees also utilise higher levels of available phosphorus than pasture.

Despite being strongly supported, in principle, by virtually everybody contacted in the catchment, tree establishment has had a controversial history. There are numerous sub issues, or impediments to progress, that need to be worked through.

Additionally, there has been a major change in the Government's approach to the issue. Whereas in 1989 it was intended to proceed with a quite large Tasmanian Blue-gum (Euc globulus) share farming programme, this is now not the case. A Government sponsored programme that was aiming to see some 50,000ha of globulus planted in the catchment will now be lucky to achieve 500ha in the next few years.

There is also considerable disillusionment in the farming community over the failure of the Tree Trust in the Peel-Harvey region. It is perceived by many farmers to have been an unrealistic bureacratic initiative, conceived in Perth without the benefit of the detailed local knowledge held by many farmers.

Whether or not this assumption is totally fair is not an issue this 3-D wishes to investigate. The reality is that the perception exists, and that glossy brochures have so far achieved only a very limited number of trees planted.

Part of the philosophical basis for this 3-D is that Government has only a very minor role in the marketing of solutions. Once Government has assisted in clarifying what the issues are, it's role is in helping the affected communities to develop their solutions. Government is then in the position of being able to help the communities implement these solutions.

Therein lies the critical issue in the development of tree planting in Peel-Harvey. Whose solution is it? My discussions with individuals and groups in the catchment strongly suggests that it would be more cost effective for Government to direct funds for tree planting assistance towards the myriad of small solutions farmers are presently trying to implement, rather than towards marketing the one grand strategy.

The following sub-issues are discussed on that basis.

3.2.1 Mass Tree Deaths

Across the catchment there are some quite substantial areas experiencing a mass death of existing trees. In some paddocks as many as one in every five trees has died in the past 2 years.

With Jarrah and Banksia this is possibly caused by Dieback (Phytopthera sp.) but Marri is also dying. I am unaware of any programme aimed at finding the cause of these deaths.

3.2.2 Grasshoppers

The massive populations of wingless grasshoppers common in farming areas from Geraldton to Esperance are considered by many farmers to be the major impediment to successful tree planting. I have been shown numerous examples of young trees stripped bare by hoppers till they died. Farmers in some parts of the catchment claim that whole farm spraying programmes give some measure of success, whilst in other areas it appears that little can be done with present techniques.

Given the significance of grasshopper "munchathons" to tree establishment and summer pastures throughout the coastal agricultural regions of WA, it seems necessary for far more effective solutions to be found.

3.2.3 Advice and Encouragement

Apart from the very small number of long term committed tree planters, very few farmers know where to turn for advice on their specific needs. There are even fewer mechanisms for encouragement and exposure to new ideas and techniques.

Governmental advice on farm trees seems to be the responsibility of both the professional foresters in CALM, and the extension offices of the Department of Agriculture.

The main mechanism for delivery of effective advice to farmers is through commercial nurseries. Some of these report a high number of people are being referred to them by Government departments.

The appointment of motivated and knowledgeable "tree persons" drawn from the local community, has been an efficient and cost effective advice mechanism in other areas. It may well be the most useful mechanism for the Peel-Harvey.

3.2.4 A Smorgasbord of Information and Assistance

Whilst farmers often complain of an excess of encouragement to grow globulus, they also often complain of insufficient information for tree growing "for our purposes". Particularly strong is the call for information on growing trees for on-farm uses such as fence posts, rails, stock yard timber etc. This call is particularly important with the increasing scarcity of the traditional timbers, such as wandoo.

Also very noticeable is the enthusiasm of many farmers to restore or rejuvenate their original vegetation. The Marris, River Gums, Tuarts, Blackbutts, Wandoos etc of the region are all magnificent farm trees. Many farmers are genuinely very fond of

them, and wish to ensure their continued survival in the landscape.

There are also numerous other pathways which farmers appear enthusiastic to follow. These include fodder trees, growing craft timbers, exotic species for shade and so on.

Instead of the major focus of Government tree planting support being directed towards producing a main course on an "eat it or starve" basis, farmers are asking for a smorgasbord of advice and assistance for them to select from.

If the aim is to drastically increase the number of trees planted in the Peel-Harvey catchment, then it would seem sensible to service the existing tree planting enthusiasm before developing and marketing other single solutions.

The farmers are calling for Governmental processes that are responsive to their needs and abilities.

3.2.5 Government Held Lands

If the State Government wants landholders throughout the Peel-Harvey catchment to plant more trees, then Government as an important landholder, needs to set a good example.

There are already two major thrusts occurring in this direction. The Main Roads Department undertakes an ongoing roadside planting programme. The visible success of their direct seeding techniques has brought this technique to farmers attention through the region.

The South West Development Authority has established a "Beauty through Trees Task Force" to arrange plantings on Government lands.

These initiatives need greater support. A policy direction from Cabinet for all Government landholders in the catchment to drastically increase their tree planting programmes, as private landholders are presently being urged, would seem very appropriate.

3.3 SUBDIVISIONS

Only recently has this 3-D begun to look at this issue. It is anticipated that much more time will be spent on it in the future. It is a critical and complex matter. Aspects include:

3.3.1 Change

There is some resentment in the traditional rural community at the changes being wrought by urbanization and proliferation of special rural blocks. This has been exacerbated by the feeling that the pressure on farmers to reduce phosphorus is largely to cater for the extra burdens urbanization is placing on the system. Urban dwellers are also seen as not pulling their weight in the phosphorus reduction strategies.

3.3.2 Consistency

There does not yet seem to be a consistent and equitable matter of dealing with subdivision proposals, and the long term management of urban and special rural areas. One example of this, which is often cited, is the clearing occurring for urban development in a catchment supposedly subject to a clearing moratorium.

3.3.3 Conflict

There is considerable conflict occurring over many subdivision proposals. Because of the lack of consistent guidelines, and the pressures involved in the mish-mash of environmental concerns, frustrated developers, myriad departmental inputs and overworked councils, there's sure to be an eruption.

Part of the problems relate to issues also discussed under "The Gap in Government". Many procedures, and Shire zoning schemes, were developed before the Catchment Management Strategies were adopted. Rearranging these to fit the present priorities is a time consuming matter, for which local government is not receiving special assistance.

3.4 CONSISTENCY

This is a major issue raised by a large number of stakeholders in the catchment. There is a major perception that there have been major inconsistencies in the operation of catchment management strategies. These include the conflicting roles of various government departments, inconsistent application of regulations such as clearing and drainage controls, and the farmers perception that they were targeted while other phosphorus contributors, such as towns, were not.

These more detailed issues are largely dealt with in other sections. However, consistency in itself is worth considering as a separate issue. Many farmers are calling for "a common standard for all people in the catchment.

Without it, the credibility of catchment management strategies is badly damaged. How to achieve it is a question we are very open to input on.

3.5 WHICH BOUNDARIES?

The natural and administrative boundaries in the Peel-Harvey area represent a bewildering overlay of lines and units.

On an administrative level there are 7 local government areas, and numerous State Government divisions. For example, the catchment falls into 3 separate administrative units for the Department of Planning and Urban Development, 2 for the Water Authority, and 2 for the Department of Agriculture. Land Conservation Districts can be organised on either catchment or Shire boundaries. The coastal plain is a cohesive unit, but the river catchment incorporate geographically distinct scarp and forest areas.

Even the term "Peel-Harvey" is somewhat misleading. Because the governmental focus has been on management of a central problem, the eutrophication of the Peel-Harvey Estuary, there has been a tendency to consider the catchment as a single entity.

Unfortunately, it isn't.

The area that eventually drains into the Peel-Harvey is made up of three main river catchments, and a number of seperate drain areas.

If it is considered desirable to have management groups based on catchment boundaries, it may be worthwhile considering the establishment of river catchment groups for the Serpentine, the Murray, and the Harvey Rivers. These would reflect greater existing social integration than the present simplistic "Peel-Harvey" catchment basis.

Whichever solution, if any, is adopted, I consider it important for us to consider this question of boundaries. Should we try and reorganize onto rational boundaries, stick with the present mixed collection, or just do a bit of both?

3.6 HOW GOOD IS THE DATA?

Many people in the catchment still strongly question the accuracy of the scientific data related to phosphorus movement. Part of that questioning is, in my opinion, due to the separation of data collection and analysis from the community consultative processes. But it does also reflect the incomplete nature of the data.

From my discussions with the relevant technical people, it appears that there is some cause for concern on the extent to which some policies have been formulated on the basis of extrapolated measurements. The Department of Agriculture has initiated a review of this in relation to river flow rates and the Water Authority are assisting in this.

The other major concern expressed by landowners is the relevance of data to specific sites, soils and management practices. This concern appears justified, as there are only 12 permanent monitoring sites in the whole catchment. The available data is inadequate to relate phosphorus mobilization to specific areas, soils, sub drains, land use or point source.

This situation is not of much use to landholders striving to improve their phosphorus management, and requiring feedback on their performance.

An additional factor in ensuring relevance to landholders will be very fast data-return times. Landholders need to know within the month of collection, the results of the sample. It will require the full cooperation of all relevant departments to achieve this.

Collection of "P" flow data is now the responsibility of the Waterways Commission, and it is intended that the network of monitoring sites be progressively expanded. There is presently $3000 allocated for that this year, which will achieve bugger all.

It is now too late to expand the system till the drop in water levels in spring. I consider it imperative for the success of the catchment management programme that a considerably increased monitoring programme be established before the 1991 break of season. Such a programme needs to include a very high degree of community involvement.

I am confident that the Waterways Commission have the necessary skills and enthusiasm to carry out the task responsibly. There is, however, cause for concern at their level of resourcing.

3.7 GAP IN GOVERNMENT

The two main sections of Government affecting catchment management strategies and actions are the State Government and it's agencies, and the various Local Government authorities.

The decision to proceed with catchment management strategies aimed at reducing nutrient run-off is one taken by State Government. The goals are, in principle, very well supported by Local Government. However, incorporation of the strategies into the range of Local Government responsibilities has added greatly to the complexity of Local Government operation, and has drastically increased the workload of some Local Government officers.

Despite their critical importance in achieving successful catchment management, and their role as the democratically elected representatives of the local people, Local Government appears to be severely disadvantaged in a number of ways.

* They often do not have early input into policy or strategy decisions affecting their daily operation and long term planning.

* They have little, if any, access to extra resources to assist them with the extra workload caused by State Government decisions.

* Their pathways of communication to Government are often tortuous. There appears to be enough difficulty in knowing the results of firm decisions, let alone have ongoing liaison and on-site evaluation of the rationale behind decisions.

* Where there is inconsistency between the policies of various departments, it is the Local Government authorities who have to cope, often on a daily basis, with the on-ground consequences. State Government inter-departmental meetings can continue in Perth for months, yet it is Local Government which is squeezed daily.

What is particularly distressing is that there is considerable support amongst Local Government authorities for environmentally wise management. Yet that support is being eroded by "administrative difficulties". However, it should be noted that these concerns almost entirely relate to the central and northern sections of the catchment, where pressure for subdivision is strongest. These local government authorities are being expected to cope with the southern expansion of Perth as well as the complexities of catchment management regulations and guidelines.

It should also be noted that whilst suburban and special rural developments include increased risks of nutrient run-off, they also include massive potential for a redesign of landscape functions at minimal cost to the taxpayer. One example of this is

the potential for nutrient stripping through flood compensating basins, which also serve as wetlands for nature conservation, recreational and aesthetic purposes.

3.8 PHOTOCOPYING

I consider this to be a critical issue, both in itself, and for what it symbolizes.

Since starting work in the catchment, I've been to lots of meetings in government departments where every participant was being paid to be there, and major projects were discussed. A perceived impediment to success was often seen to be the lack of available funds and resources. This was duly noted in the minutes, which were duly typed and photocopied by somebody's secretary.

I've also been to lots of meetings of community groups, where every participant was a volunteer. Major issues were discussed, as well as the more mundane. My favourite example comes from a recent meeting of the Serpentine-Jarrahdale LCD. This stalwart group covers an area of some 900 sq.km, with over 3000 landholders, and is bearing the brunt of the southward expansion of the Perth Metropolitan area. Theirs is the one region in the catchment where phosphorus levels are still increasing.

They are a keen, active and knowledgeable group contributing substantial amounts of their personal time and energy. A recent meeting was forced to discuss at length the options for getting the minutes typed up, and discussion on another issue nearly foundered because the relevant documents could not be copied and circulated quickly. There was no access to a photocopier.

To me this represents an absurd imbalance of resources.

3.9 INFORMATION

There is a great hunger amongst people in the catchment for more information. This covers five main areas.

3.9.1 Data

People have been given broad generalised scenarios for many years, and are now both questioning base assumptions and wanting much more site specific information (particularly for their site).

3.9.2 Governmental Processes

Many people in the affected communities feel strongly that they only officially find out about government policies and decisions after they are made, and sometimes not even then. (However, scraps of information are often procured on an "off the back of a truck" basis).

3.9.3 Governmental Pathways

Even farmers who have been very active in dealing with Government on catchment issues are unaware, if not downright bewildered, by the various roles played by the range of departments, agencies and individuals they need to deal through.

3.9.4 Options for Actions

People keen to undertake positive catchment initiatives often indicate a hunger for practical information.(ie. What trees grow on what soils, how's the new "super" compare, what's the relationship between drainage and phosphorus etc?)

3.9.5 Telling the Story

Not all information needs to flow inward. Catchment landholders are particularly keen to have information flow from them to relevant departments and the broader community. This is often expressed as "Why don't those bastards in Perth stop blaming us for a bit and come down and see what we're actually doing"?

Many aspects of the above five points are being constructively tackled by Government and community programmes. However there is considerable room for improvement.

3.10 INTEGRATION

There is a need to integrate the actions of all stakeholders in the catchment. There are at present only limited mechanisms in place to achieve this.

For example, the ICMPG achieves some integration between Government departments. The Department of Agriculture achieves some integration between farmer groups. Each local Government authority knows what the others are up to. Members of the various farmer groups tend to know each other informally, and sometimes there is joint membership.

It is not intended here to review the effectiveness of the existing formal and informal mechanisms. I consider there is general agreement that we need to improve on them, the only question is how?

The challenges of achieving integration include:

3.10.1 Geographic

Whilst communities are arranged on a geographic basis, Government is predominantly arranged by function.

3.10.2 Territorial bottlenecks

Any re-arrangement of functions or processes can bog down as various individuals, departments or groups protect their established territories.

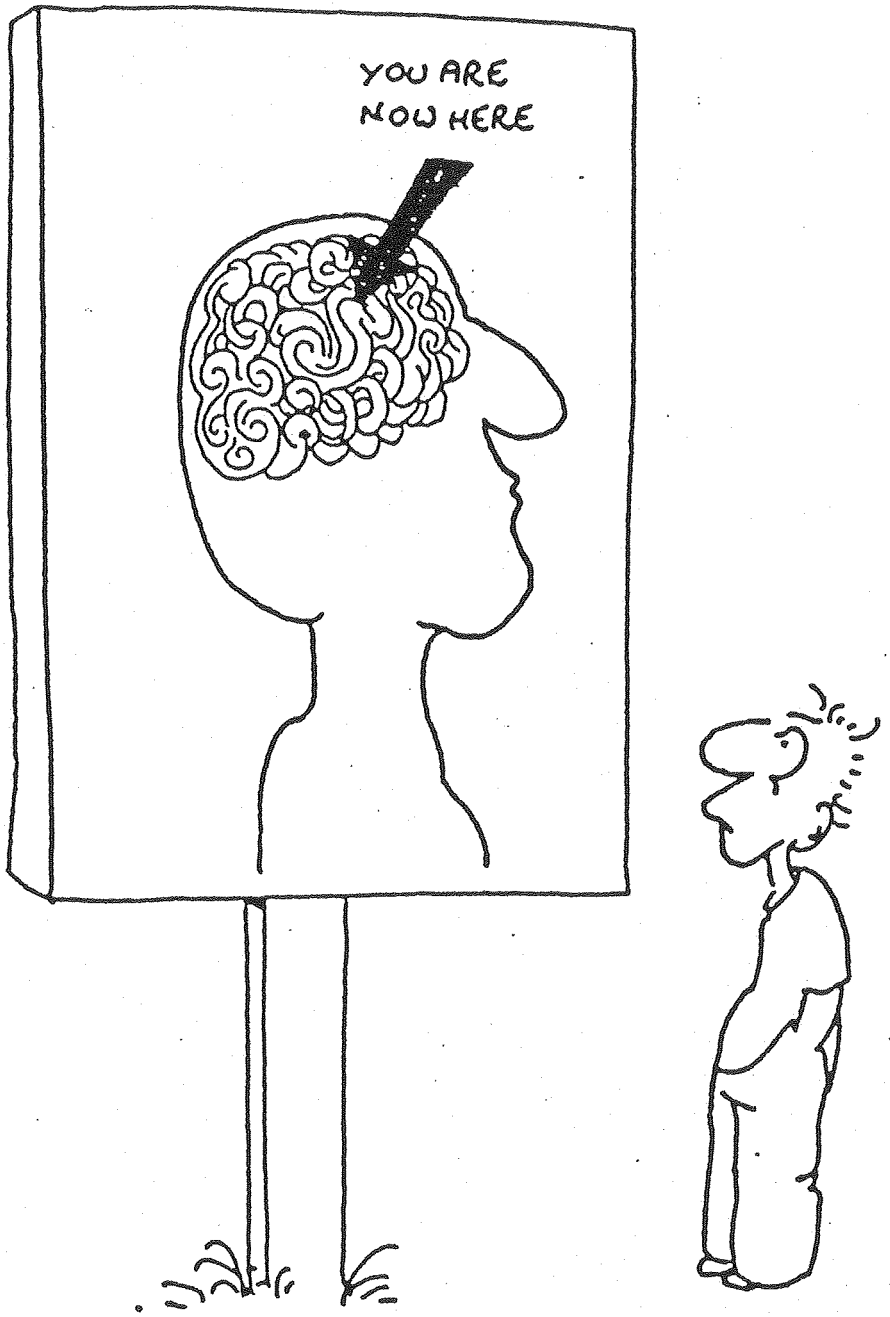
3.10.3 Protocols

There are many written and unwritten rules on who should, or shouldn't be involved in an integration process. This is often different from who would best be involved.

3.10.4 Assumptions / Philosophies

Often our attempts at integration are built onto existing structures or organisational assumptions, which may not be the most appropriate.

The most effective integration methods I have seen in action are where informal cooperative understanding exists. That's what we need to foster.



Cook.

3-D EVALUATION OF PEEL-HARVEY

CATCHMENT MANAGEMENT ISSUES

SECTION FOUR

SYNOPSIS AND FUTURE STRATEGIES

AIM

To ensure that the Peel-Harvey Estuarine System becomes clean, healthy and resilient and that it's beneficial uses are maintained or improved with minimal social or economic disruption to the existing communities in the catchment.

In fact, if we're imaginative enough we can surely improve the health of the estuary and the lives of the people in the catchment with the same programmes.

NOT A SIMPLE SITUATION

What we are basically trying to do is assist 40-50,000 people make some fundamental changes to their way of life; changes to how they farm, how they operate their businesses, fertilize their gardens, install septic tanks, subdivide their properties and so on.

We are trying to do this in a society much of which is already undergoing quite massive change, with population increase, urbanization and industrialization displacing traditional land use patterns, and straining existing infrastructure.

We are also trying to put into practice a government policy on integrated catchment management which has quite profound implications for the existing organisational structures of government departments.

We have under-achieved so far.

That's hardly surprising, given the task. But, there has been considerable progress made:

* Phosphorus levels are falling - but not fast enough.
* From the earlier conflicts we have built a cooperative spirit - but it's very fragile.
* Integration has started (from the top). Implementation at ground level is increasingly important.

THE GRAND SOLUTIONS

The emphasis is changing. We started with a few simple (but expensive) master strokes; Dawsville Cut, Tree Trust, Coastal Super, which would solve "the problem".

None have yet been capable of being fully implemented.

The emphasis is now on cooperative development and implementation of a myriad of small solutions.

Reducing the problem to a human scale is the only pathway we have left.

ATTACHMENT ONE

THE ONE STOP SHOP

WHY?

1. Image

At present the phosphorus reduction programme is relatively faceless in the region. Only a very small number of farmers, and some local government people, know the key players from government.

It is generally the restrictive side of the programme that is prominent in most people's thoughts. There is no popular symbol (the "P" Busters?) emblazoned on T-shirts, local press stories on what the "P Taskforce" is doing, no local impression of a team hard at work with the community.

There are people hard at work, but these are often perceived at operating in some obscure corridor of government. They are seen to have ink under their fingernails instead of mud on their boots.

2. Easing local confusion.

Local people are increasingly confused by the maze of government departments and agencies involved in catchment management. Who do you contact? How do you hit the right buttons? Is it the Water Authority, the Waterways Commission, the Water Resources Policy Council, ICMPG, DPUD, EPA or CALM; might even be the Ag Department.

And when you find the right department you have to find the right regional structure, because most departments have cut the catchment in half with administrative boundaries. And when you do find the right regional structure in the right department you often have to repeat the process to find the right person.

Local people desperately need an initial point of contact, and a friend to help them weave their way through the maze. The catchment management programme needs to be a more readily identifiable entity.

3. Integration

Perhaps the most difficult thing to achieve is integration between the different levels of Government, and the different levels of community groups and structures. All indications are that the most effective mechanisms, at a district level, are informal links between receptive individuals. At present jobs are

divided on administrative lines, not geographic.

The ideal would be for each relevant department to consolidate their catchment functions through one person, who has primarily a liaison role, and have that person working closely with staff of other departments.

4. Efficiency

The catchment is over 100kms long. The Catchment Management Programme is presently administered from Perth, additional kilometres outside the catchment, or from Harvey at the extreme southern end. And lets be honest, the further you are geographically removed from a situation, the easier it is to be distracted from the realities of it's day to day problems. As the focus moves from grand administrative solutions to detailed day by day programme implementation, we need to be right where the action is.

What?

I'm proposing we set up a "one-stop-shop" for catchment management in the heart of the catchment, at Pinjarra, staffed by 3 or 4 energetic people, with space for others to use when in town.

These features would help it work:

* Shopfront - friendly, inviting and approachable, right in the main street, and looking as unlike a government department as we can manage.

* Full of team spirit. Ideally the team members would be from more than one department, and possibly include community groups.

* High profile. Let's inject some enjoyment into this - a symbol (designed by local school kids), chatty articles in the local press etc, but definitely an up front identity of the people in the catchment management programme.

* Ready access. Despite the operational difficulties it can cause, the community must know that "the door is always open".

* Lean and hungry. The Catchment Management Programme is operating on a shoe-string budget. Let's make sure the locals realise this.

HOW?

1. Rent an appropriate shop or house.

It may not be available in the main street, but needs to be prominent. At least part of the cost of this would be recouped by the subsequent easing of the accommodation shortage in South Perth. The GIS unit, which could also operate from Pinjarra, is presently virtually housed in the corridor at South Perth due to lack of space.

2. Staff

* The newly appointed Catchment Extension Officer is very keen to live and operate from Pinjarra, as he considers this to be the most efficient base.

* The Senior Research Officer is thinking about it.

* The Catchment GIS Unit is presently without a base.

* The 3-D consultant, if wanted in a more permanent capacity, is keen to live and operate from Pinjarra.

* The Department of Agriculture Catchment Budget allows for further staff in 1990/91, which could be based in Pinjarra.

* The Water Authority could be encouraged to house a catchment liaison officer in Pinjarra.

* A Secretary/Coordinator would also be required.

COST?

Detailed costings have not been made. It is probable that virtually all of the above would be found by reorganization of existing budgets.

ATTACHMENT TWO

A NEW FRAMEWORK

As improvement of the integration of catchment management actions is critical to the future health of the Peel-Harvey, I am being cheeky enough to suggest a whole new framework. Consider it a talking point to get discussion started.

It attempts to include three critical factors which, on the basis of my discussions with the people of the catchment, I consider absolutely critical.

1. Locally based

The task of integration is given much greater geographical focus. It is geography, the plain reality that landscapes do function in an integrated way, that has lead us into policies of integrated management.

So let's keep what we're doing as close to the integrating force as possible. (see also Attachment 1)

2. At a community level

To date community involvement has been an optional extra. Write your report, from a scientific or administrative perspective, then give the community a limited opportunity to comment. It is quite apparent that this approach has not inspired the communities of the Peel-Harvey catchment to whole hearted cooperation.

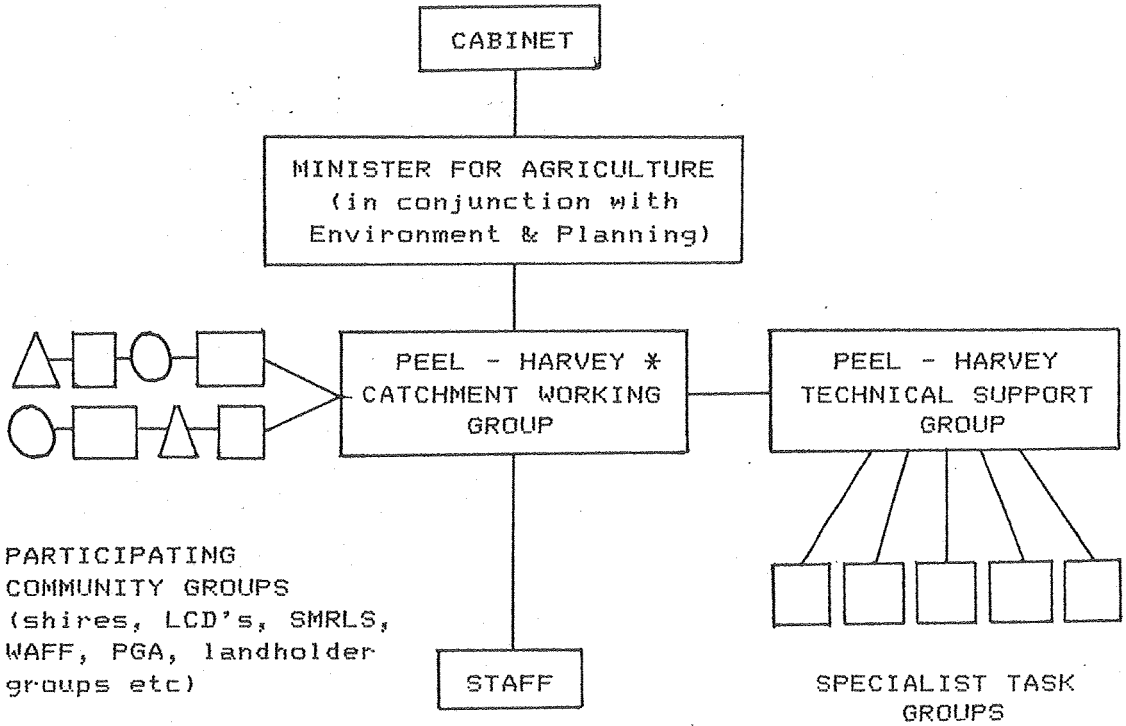
It is time for the community to prepare their own plan.

3. A wholly cooperative framework

This is to avoid the protracted territorial negotiations that occur when statutory powers are involved, and also because the major effective catchment management programmes are those being developed and implemented in a cooperative spirit. Cooperation seems to be the major asset we have, so lets build some more.

My Suggestion

I'm suggesting that the essence of the current 3-D operation be expanded from a roving consultancy to a major community led effort. The suggested framework is outlined on the adjoining page.



* or separate working groups for the separate main catchment areas

FAILINGS

There have been critical failings of Catchment Management so far.

1. It's still an abstract process, and hasn't been sufficiently humanized in the area.

2. Integration of agencies and their actions hasn't occurred to the needed extent, and certainly not on the ground.

3. The messages from ground level, which have significant policy implications, do not feed directly to Ministerial level.

These failings have been addressed, on a limited scale, by the introduction of the 3-D process. The need for a "facilitator" approach has been confirmed by the National Integrated Catchment Workshop held in Mandurah during April.

I consider it's time to drastically accelerate that process.

FUTURE STRATEGIES

Flowing from the 3-D process so far, I have only two major pathways to offer. They could be implemented together, or separately.

1. Put a local, human face on the catchment management programme by shifting to Pinjarra.

Aim for a multi-departmental, integrated, "One-Stop-Shop" in the main street. Details are outlined in Attachment 1.

2. Establish a cooperative forum through which the myriad of community groups can develop their own solutions - within the widely accepted criteria for catchment management. Details are outlined in Attachment 2.

Key elements of the suggested structure are:

1. Direct link

This would be from the community to the Minister for Agriculture, and hence to Cabinet.

2. A Catchment Working Group of (say) 11 community members.

For practical reasons these would probably need to be Ministerially selected from open nomination. It will be impossible, and perhaps undesirable, to have these people directly representing specific groups. The Catchment Working Group would need a very specific terms of reference, setting out an agreed objective for catchment management, and I consider should be given no more than 12 months to formulate a plan. I consider fortnightly meetings will be required, and members should be entitled to all expenses and a sitting fee.

3. Participating Community Groups.

These would be just that - any community group wanting to participate in the process. The essence of the 3-D process us that it is open to all groups who want to grapple with the issues in a positive and practical manner, and this should continue into this process.

The main need is for each community group to be part of a constant information flow to and from the Working Group.

3. Technical Support Group

This would contain the present key departmental players.

Existing departmental committees, such as the ad-hoc catchment monitoring group, would in my opinion operate most effectively as specialist task groups. It is critical to appreciate that in this structure, the specialists feed their advice to a community body.

4. Staff.

I consider a staff of 4 is required to properly service the Working group.

* one person responsible for liaison between the Working Group and the community. (including existing extension)

* one person responsible for coordinating the Technical Support Group. (including existing coordination)

* one person providing support for the Working Group, and responsible under their direction for preparation of the catchment plan.

* one person providing secretarial support and coordination.

As outlined in Attachment 1, I consider a "shopfront" office would need to be established in Pinjarra, which is the approximate geographical centre of the catchment. Ideally, the office furniture would be quite uncomfortable, so that most time is spent outside with the people of the catchment.

Most staff would, I hope, be available by shuffling existing positions involved in the catchment.

What to do with this idea.

1. Don't panic - we're not setting it up tomorrow. I'm merely floating it as a suggestion.

2. Talk to me about it.

3. If enough people see it as a desirable direction, I suggest we focus further by inviting Sharma Stone over for a visit. Sharma is the Manager for Marketing with the Rural Water Commission of Victoria. It's from her work in the Kerang catchment, and the structure they set up, that I've borrowed the framework.