DO A COUPLE OF SWALLOWS MAKE A SUMMER?

Science in a Politico-Bureaucratic Nexus

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- The majority of our countrymen have an obsessive, almost morbid, interest in politicians and their doings, which is fed by the press, the television and the radio. For their own part, many politicians carry around with them an aura of entitlement. Everything is owed to them; nothing is owed from them. This arises from the illusion that being voted into power magically invests them, literally overnight, with wonderful new insights and instant expertise in all fields of human endeavour. They become all-knowing, all-wise

- What of the bureaucrats? Certainly not all government bureaucrats enter into a nexus with politicians, but many do. This invests them with the same pretentions, the same hubris, the same aura of entitlement found in their masters. Politicians and bureaucrats make decisions on the hoof, with no attempts being made to first fill lacunae in their knowledge of technical subjects coming within their purview.

Modder 2004

SCOPE

- Opportune moment
  - Ω to α
- Research within DEC vs. biodiversity science
- Biodiversity conservation strategy framework
- Legislation and policy

PURPOSE; WHAT; AIM

MISSION

To advance biodiversity conservation in WA through the application of scientific principles, tools, information and excellence.

VISION

There is significant reduction in the rate of biodiversity decline, with biodiversity being better conserved in WA, and DEC (WA) is recognised as a world leader in biodiversity science and conservation.

GOAL

To provide a scientific basis for decision makers and managers undertaking (priority) biodiversity conservation.

OBJECTIVES

- To **describe** and **characterize** biodiversity in WA.
- To **determine** the **effects** of changes in biodiversity (both natural and human-induced).
- To **provide scientific concepts** and **tools** for management of biodiversity, including modelling and rapid assessment techniques.
- To **maximise biodiversity research** outcomes.
- To **transfer knowledge** to ensure that research underpins decision-making for policy makers and managers.

- WHERE is biodiversity ?
- WHAT state is it in ?
- WHAT is the value of biodiversity
- WHAT is (and HOW is it) impacting on biodiversity ?
- WHAT biodiversity is changing and why (how does biodiversity function)?
- HOW is it best to deal with conserving, restoring and maintaining biodiversity ?
- HOW is it best to communicate the above ?
- HOW will DEC research contribute to national and international priorities?

DESCRIBE AND CHARACTERIZE BIODIVERSITY

UNDERSTANDING THE COMPOSITION, PATTERNS, STATUS AND TRENDS IN BIODIVERSITY

Within five years

- Determine data collections and research directions to address gaps in knowledge
- Collect and collate data on biodiversity components and patterns, inc. ecosystem delineation
- Ecosystem mapping (1:100K)
- Develop and implement taxonomy plan – undescribed taxa
- Continue genetic diversity research
- Maintain and expand biotic collections

Within 10 years

- Systematic biological survey of 50% of terrestrial WA;
- Systematic biological survey of 30% State waters
- Hierarchical ecosystem mapping of State completed at 1:100,000 with conservation status of regional ecosystems
- Further 250 taxa described
- Targets for non-vascular, invertebrates and marine organisms

EFFECTS OF CHANGES IN BIODIVERSITY

UNDERSTANDING THE IMPACTS OF HUMAN-INDUCED ACTIVITIES

Within five years

- Establish modelling program for climate change scenarios to determine biodiversity responses and effectiveness of adaptation strategies.
- Develop and implement a terrestrial and marine biodiversity monitoring and evaluation framework and protocols.
- Determine conservation status of threatened and priority taxa and ecological communities.
- Continue development of WA biodiversity audit.
- Establish/continue a research program on disturbance and threatening processes – fire; feral camel; feral goat; feral pig; introduced native/non-native birds; Pc and feral cat and fox (??And wild dog).
- Recovery of taxa

Within ten years

- Terrestrial monitoring in place for conservation reserve system and significant ecosystems and in other benchmark areas.
- Marine monitoring in place for all marine parks and reserves, inc. sanctuary zones, and in other bench mark areas.
- 50% of priority taxa conservation status confirmed
- Distribution and abundance of feral camels, feral goats, feral pigs known, and impact on high biodiversity values known
- Pc infestation known
- Pc outbreaks contained in high priority areas, eg Fitzgerald River National Park
- Feral cat/fox control technology improved
- Desired fire management regime for biodiversity in place for three landscapes

SCIENTIFIC CONCEPTS AND TOOLS

APPLYING SCIENTIFIC CONCEPTS AND TOOLS FOR BEST PRACTICE MANAGEMENT AND CONSERVATION

Within five years

- Develop/refine conserve reserve system design tools & methodologies.
- Develop design tools/protocols for identification of a network of sanctuary zones.
- Reserve database to support reserve establishment.
- Refinement of threatened taxa/TEC listing protocols and identification techniques improved.
- Refine/develop practitioner active adaptive management tools

Within ten years

- On going

MAXIMISE BIODIVERSITY RESEARCH

IMPROVING INTEGRATION AND COORDINATION OF RESEARCH ACROSS DISCIPLINES, AND BUILDING PARTNERSHIPS AND STRATEGIC ALLIANCES

Within five years

- DEC Science Council
- Investigate alterative funding sources
- Review/strengthen strategic alliance/partnerships and collaboration (e.g. CRCs etc)
- Determine core areas of research, and select thematic areas for collaboration/partnerships
- Build capacity - Develop and implement training and recruitment plan – taxonomy; survey biologists; condition monitoring; disturbance ecologists

Within ten years

- Biodiversity Science Centre of Excellence established
- X Taxonomists
- X landscape ecologists
- X disturbance ecologists
- X survey biologists

TRANSFER KNOWLEDGE

Getting research findings into policy and uptake by biodiversity conservation managers

Within five year

- produce a biodiversity science communication campaign along with a plan
  - Inc. development of a prospectus
- Provide high level advice (DEC/Minister)
- Provide strategic input into national and State committees
- Actively transfer knowledge broader and PROMOTE, PROMOTE, PROMOTE (case-studies, best practice etc)
- Undertake active adaptive management projects within DEC.

Within 10 years

- 30 recognisable large scale active adaptive management projects in place
- Key scientific findings incorporated into policy and management

OTHER RESEARCH PRIORITIES

- Identify institutional (legislation, policy and customs) impediments to bringing about biodiversity conservation and research

- Determine behavioral changes of people and institutions impacting on and using biodiversity

FIRE EXAMPLE

- Problem - Altered fire regime
- Solution – change regime for recovery and maintenance of biodiversity
- Research – identify ecological and biological characteristics of key biodiversity components…effects/trends in biodiversity
- Social research – what are the drivers of fire management; responsibilities of land managers; how is behaviour changed?

ADVICE ON DVELOPING YOUR PLAN

- Link program areas (inc any new) with objectives
- Put in targets for actions
- Analyse new disciplines and future trends
- Make reference to staff management and recruitment program
- Link with other documents – regional NC plans, marine park plans, nationally, State, international
- Get an external editor for brochure
  - Professional scientific editor and communication expert (see CSIRO's David Salt)

Implementation of plan

- Get Corporate Executive understanding and support
- Get external support

- Two key discipline areas needed
  - Staff to develop and drive large scale, integrated and cross-discipline projects
  - Specialized staff to transfer knowledge and publish for decision-makers & managers

THE END

"The man who has time, the discrimination, and the sagacity to collect and comprehend the principal facts and the man who must act upon them must draw near to one another and feel that they are engaged in a common enterprise"

Woodrow Wilson 1856-1924

(after Roux *et al.* 2006)