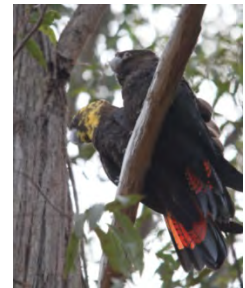


Submissions Report

Proposed Fire Buffer Construction Works (Stage 2), Eurobodalla National Park, NSW Far South Coast Region



A report prepared for NSW Office of Environment and Heritage


JUNE 2014

Report No. EM.0584

Citation

EnviroKey (2014) Submissions Report: Proposed Fire Buffer Construction Works (Stage 2). A report prepared by EnviroKey for NSW Office of Environment & Heritage. Report No. EM.0584. Final Report. Version 1.0. 21/06/2014.

Document Control

		Project Title: Potato Point Fire Buffer Construction Works (Stage 2)		
Project Identifier :		EM.0584		
Project Location:		\\ENVIROKEY\Public\Projects\OEH\Potato Point REF_SIS		
Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft	03/06/2014	CM, SS	LS	Steve Sass
Final (incorporate comments from OEH)	21/06/2014	SS	-	Steve Sass

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Front Cover Image

Left: White-footed Dunnart. Middle: Swamp Oak Floodplain Forest endangered ecological community. Right: Glossy Black-cockatoo female with fledgling.

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1 INTRODUCTION

EnviroKey Pty. Ltd (EnviroKey) recently prepared a Review of Environmental Factors (REF) and Species Impact Statement (SIS) for the proposed construction and operation of the Potato Point Fire Buffer (Stage 2) within Eurobodalla National Park (NP) for the New South Wales (NSW) Office of Environment & Heritage (OEH). A Bushfire Risk Assessment (BRA) was also prepared by Dr Kevin Tolhurst from the University of Melbourne.

OEH place all three environmental reports on public exhibition on 27th April 2014 for a period of 30 days. The consultation period ended on 27th May 2014 at 5pm.

As OEH is the proponent and determining authority for the proposed works under Part 5 of the *Environmental Planning and Assessment Act 1979*, the exhibition period was provided to ensure that OEH has all of the relevant information when making a decision on the proposed works.

1.1 EXHIBITION LOCATIONS

The three environmental reports were placed on public exhibition on the OEH website and multiple locations in hard copy. These locations were as follows:

- National Parks and Wildlife Service Office, Environment and Heritage Portfolio, Cnr Burrawang and Graham Streets, Narooma, NSW 2546
- Narooma Public Library, Field Street, Narooma, NSW 2546
- Eurobodalla Council Chambers, Vulcan Street, Moruya, NSW 2537
- Department of Planning and Infrastructure, Level 1, 11 Farrer Place, Queanbeyan, NSW 2620

1.2 SUBMISSIONS

Written submissions during the exhibition period were invited using three options:

- Online on the OEH website.
- My email to potatopointsubmissions@envirokey.com.au
- By mail to, The Manager, National Parks and Wildlife Service, PO Box 282, Narooma, NSW 2546.

1.3 PROPONENTS DETAILS

The proponent for the proposed works is NSW Office of Environment & Heritage. Full details of the proponent are provided within **Table 1**.

Table 1: Proponents details.

Item	Details
Proponent	NSW Office of Environment & Heritage (OEH)
Contact	Mr Tim Shepherd
Address	PO Box 656, Merimbula NSW 2548
Phone	+61 (0)2 6495 5000
Facsimile	+61 (0)2 6495 5055

2 METHODOLOGY

A general approach used by OEH for public submissions was adopted for this report. All submissions were registered and numbered, regardless of the method of submission. Multiple submissions by the same author highlighting similar content were treated as a single submission. Submissions were deconstructed to identify a schedule of issues including those against and in support of the proposal.

Only submissions received during the exhibition period were included.

3 RESULTS

A total of 33 submissions were received during the exhibition period (**Appendix 1**). Of these:

- 23 objected to the proposal.
- 9 supported the proposal (in some form, or an entirely different proposal that results in greater clearing).
- 1 submission was not specified.

Table 2 summarises the breakdown of submissions from personal submissions and organisations.

Table 2: Summary of the submissions received during the exhibition period.

	Support	Object	Not specified
Personal submissions	8	21	-
From organisations	1	2	1
Sub-totals	9	23	1
Total submissions	33		

3.1 PERSONAL SUBMISSIONS

Table 3: Summary of the issues raised in the personal submissions.

Issues raised (not in any ranked order)	Submission Number	Number of submissions raising the Issue.
<p>1. Ecological Impacts and environmental degradation Further clearing would have the potential to cause damage to the population of fauna and the integrity of the threatened ecological community Issues of environmental degradation raised as a result of option 2 due to soil erosion and sedimentation</p>	1, 2, 3, 7, 8, 10, 13, 4, 12, 17, 18, 20, 23, 24, 25, 26, 27, 29, 30	19
<p>2. Supporting Documentation Commenters feel that according to Dr Tolhurst and his Fire Risk Assessment, the risk of fire at Potato Point is low. Therefore the need for expanding the fire break is considered unnecessary.</p>	1, 2, 3, 7, 8, 18, 23, 24, 25, 26, 27, 29, 30	13
<p>3. No net improvement to protection Some residents feel that further clearing for the existing fire break is adequate and an expansion would not improve the efficacy of the fire break.</p>	1, 2, 3, 7, 8, 26	6

Issues raised (not in any ranked order)	Submission Number	Number of submissions raising the Issue.
4. Fire Risk Assessment Insufficient Others conversely feel that Dr Tolhurst's report is contradictory and misleading.	4	1
5. Process of Evaluation Some feel that the process of assessment and determination is flawed	3	1
6. Documentation lacking cross reference It is felt that the REF does not address the points of the Fire Risk Assessment	3	1
7. Undesirable precedent It is felt that continuing through with this proposal would set a precedent for NPWS to be responsible for the fire break protection of a huge number of communities especially those with high fire risk.	3, 12	2
8. Threatened Species Monitoring Plan Residents want further details as to action taken if the TSMP determines that there is an adverse impact on the threatened species and ecological community discovered as a result of the surveys. Also more information as to what a Weed Management Strategy and a Feral Animal Strategy would involve is wanted.	3	1
9. Use of Donations Allocation of donated funds to support local electoral campaign potentially used for other means – i.e supporting messages for the fire break which is not agreed with	8	1
10. Why have process for decision making if it can be overrun by the outspoken minority? Some feel that the integrity of the process of evaluation is diminished due to outspoken community members railroading the negotiations process.	4, 8	2
11. Lack of Unity in Opinion Some feel that the Community Association are claiming a united opinion in wanting the firebreak but this is misrepresented.	7, 8, 12	3
12. Government Input “Why has the Fire Risk Assessment not been taken into account in deciding what should be done?” “Is the Minister for Environment and Heritage aware that the Fire Risk Assessment does not support further clearing?” “Is the Member for Bega aware of this?”	3	1
13. Insufficient consultation		

Issues raised (not in any ranked order)	Submission Number	Number of submissions raising the Issue.
Some residents feel that the notice given of the community consultations was insufficient	4	1
<p>14. Compromise solution</p> <p>A compromise solution has been provided which adopts the following strategy: Follow option 1 (selected tree removal), define the HR areas within 1km of Potato Point, conduct mosaic burns at 2 and 4 yearly intervals, clear vegetation to PBP levels (reduction of 80% of tree cover) to the west of Jemison's track for 50m and mow the cleared areas annually.</p>	4	1
<p>15. Maintenance</p> <p>Who would become responsible for the maintenance of the new fire break if the works were to be approved.</p> <p>There is a lack of detail in regards to the maintenance program suggested for the preferred option.</p>	5, 8	2
<p>16. Protection of southern boundary due to risk</p> <p>The southern boundary is supposedly a fire risk according to residents and any efforts made to improve safety should focus on this area in particular</p>	5	1
<p>17. Management of existing fire break and infrastructure</p> <p>Some feel that the current standards of maintenance for existing breaks and of the fire trail at Jemison's Point is insufficient.</p> <p>It is felt that HR burns at Jemison's Headland would be a useful way of reducing potential hazard to the community</p>	5, 9, 11	3
<p>18. RFS Fire Shed Protection</p> <p>Bush surrounding the RFS Fire shed should be included in the clearing program</p>	9, 13	2
<p>19. Worst case scenario from Dr Tolhurst considered inadequate</p>	5	1
<p>20. Historical clearing</p> <p>The history of clearing for the site should allow for the continued clearing and expansion of fire break.</p>	6	1
<p>21. More responsibility on local bodies to determine protection measures</p> <p>It is felt that the RFS should have the authority to determine the protection measures that are suitable to the local community.</p>	7, 8, 12,	3
<p>22. Responsibility of individual land owners</p> <p>Some commenters feel that greater responsibility should be undertaken by each individual landholder to provide adequate fire break and protection within their own land holding</p>	8	1
<p>23. Insurance issues</p>	8	1

Issues raised (not in any ranked order)	Submission Number	Number of submissions raising the Issue.
It has been questioned 'who will be underwrite the insurance claims for houses lost due to ember attack if the area is 'opened up'?'		
<p>24. Planning and Approval process</p> <p>Some feel that the Minister should be able to make a ruling at their discretion regardless of supporting documentation</p> <p>The 'do nothing' option would be contrary to the Ministers commitment, however some residents feel it is the best option as the assessment process is flawed. The do nothing option also saves money on construction and maintenance.</p>	11, 12	2
<p>26. Rights to Appeal</p> <p>Some residents want to know what rights of appeal are available should an undesirable option be chosen</p>	3	1
<p>27. Community Consultation</p> <p>Some have asked who chose the panel of speakers for the Community forum and why was their information conflicting with Dr Tolhurst?</p>	13	1
<p>28. Reporting</p> <p>How much has been spent on studies? And how much would it have cost to get clearing works done consistently in the past?</p> <p>More detail in regards to a long term plan is requested as option 2 is inadequate but is considered a good starting point. Current documentation is considered only partially acceptable to addressing the offer.</p> <p>A comprehensive Fire Protection Strategy was hoped for as opposed to 'some clearing options'.</p> <p>Outcomes of reporting seem disappointing after amount of time and money spent with no acceptable outcome</p> <p>locations of endangered fauna were located outside of the areas relevant to consideration.</p>	8	1
<p>29. Survival rates of Flora and Fauna in the event of a fire</p> <p>How many endangered species of wildlife and flora would survive a fire such as that of March 1985?</p>	15, 31	2
<p>30. Requests for adequate steps to be taken to protect the residents. Essential to restore an effective fire break for the community</p>	15, 11	2
<p>31. Enhanced wellbeing as a result of works?</p> <p>Some comments consider if the community will be safer as a result of the proposed works?</p>	4	1
<p>32. Potential affects on Aboriginal and Cultural Heritage items</p>	15	1

Issues raised (not in any ranked order)	Submission Number	Number of submissions raising the Issue.
33. Consultants reports failed to give adequate weight to the durability and regenerative ability of the vegetation	15	1
34. Authorities held to account if action not taken now	11	1
35. Value of environment Some feel too much importance is being placed on the welfare of the endangered flora and fauna.	6, 11	2

3.2 RESPONSE TO PERSONAL SUBMISSIONS

1. Ecological Impacts and environmental degradation (19 submissions)

Further clearing would have the potential to cause damage to the population of fauna and the integrity of the threatened ecological community

Issues of environmental degradation raised as a result of option 2 due to soil erosion and sedimentation

The SIS was specifically written to assess the potential impacts of the proposed works on the identified threatened ecological community and threatened fauna utilising the site. The SIS includes a number of mitigation measures to prevent impacts as far as possible. Where impacts do occur despite mitigation measures, amelioration measures are used to remedy damage as far as possible.

The REF considered all potential impacts of the proposal as a whole. Where there was a risk of environmental damage, the REF assessed the potential effect weighed against other factors of the project and determine the most reasonable way to proceed. Where uncertainty exists, the REF and SIS applied the precautionary principle under the guidelines of Ecologically Sustainable Development.

2. Supporting Documentation (13 submissions)

Submissions feel that according to Dr Tolhurst and his Bushfire Risk Assessment, the risk of fire at Potato Point is low. Therefore the need for expanding the fire break is considered unnecessary.

Dr Tolhurst was requested by OEH to provide a Bushfire Risk Assessment (BRA) for Potato Point in accordance with a brief supplied by OEH. This assessment was relevant to the proposed works and allowed OEH to analyse all possible options.

This BRA was written as a single document in conjunction with a number of other documents commissioned by OEH used to provide a complete picture of the chosen option and to assist in making the decision as to whether the expansion of the fire break is necessary. The decision cannot be based on one report alone.

The BRA was not finalised until several days after the REF and SIS.

3. No net improvement to protection (5 submissions)

Some submissions feel that further clearing for the existing fire break is adequate and an expansion would not improve the efficacy of the fire break.

Dr Tolhurst was commissioned by OEH given his expertise in Bushfire behaviour and asked to provide a written report based on his professional opinion. The BRA enabled OEH to develop a preferred option.

OEH will make an informed decision, based on the cumulative information provided by all environmental reports (REF, SIS and BRA).

4. Fire Risk Assessment Insufficient

Other submissions feel that Dr Tolhurst's report is contradictory and misleading.

Dr Tolhurst is an expert in his field and provides expert advice on wildfire behaviour prediction, landscape scale fire ecology management, fire risk management, and the development of prescribed burning techniques and guidelines. He also provides advice on fire suppression at major bushfires. His expertise is recognised through his advice in the Black Saturday fires in Victoria in 2009 and numerous inquiries, court cases and the 2009 Victorian Bushfires Royal Commission. Dr Tolhurst is considered by OEH to be appropriately qualified to provide the expert advice contained within the BRA.

5. Process of Evaluation

Some feel that the process of assessment and determination is flawed

The process of assessment evaluation is complex and has a legislated framework to enable consultants to replicate processes and provide comparisons between jobs. The assessment processes is used to provide a measure of consistency of approach and result. Whilst the process may seem long, it is to ensure due diligence to a specified process and provides a framework to work by as opposed to no framework at all.

THE REF and SIS aims to detail the legislated process step by step and qualify each section with supporting documentation including research, survey methods and historical information.

6. Documentation lacking cross reference

It is felt that the REF does not address the points of the Bushfire Risk Assessment

The BRA was not part of the briefing documents provided for the preparation of either the REF or the SIS. This document was separately commissioned by OEH and written separately to the REF and SIS.

Nonetheless, all three environmental reports will be utilised by OEH as the determining authority to enable a decision on the preferred option.

7. Undesirable precedent

It is felt that continuing through with this proposal would set a precedent for NPWS to be responsible for the fire break protection of a huge number of communities especially those with high fire risk.

The REF and SIS can only consider the preferred option as chosen by OEH. The REF cannot comment on any broader ramifications should the proposal be accepted.

This issue is noted.

8. Threatened Species Monitoring Plan (TSMP)

Residents want further details as to action taken if the TSMP determines that there is an adverse impact on the threatened species and ecological community discovered as a result of the project.

The REF and SIS proposed reasonable mitigation measures commensurate with the potential impacts of the proposed works. While it is inappropriate to provide mitigation measures far greater than deemed acceptable for the level of impact, the objective of the TSMP would be to determine if impacts have exceeded those assessed. Accordingly, additional mitigation measures could be applied including the use of biodiversity offsets if deemed necessary by OEH.

More information as to what a Weed Management Strategy and a Feral Animal Strategy is requested.

Should the decision be made to proceed with the proposal, both strategies as well as the TSMP would be developed specifically for the project. To do so before the decision process had reached this stage would be excessive before the project was given approval.

9. Why have process for decision making if the outspoken minority can overrun it?

Some feel that the integrity of the process of evaluation is diminished due to outspoken community members railroading the negotiations process.

The purpose of the REF and the SIS is to determine the impacts of the preferred option chosen by OEH. As the proponent for the proposed works, only OEH make a decision as to the preferred option, not any particular community members or other interested organisations or parties.

OEH has endeavoured to provide an opportunity for all interested persons and parties to speak on the proposal include the facilitation of community meetings and this Submissions process. Whilst some persons or parties may be more vocal than others, OEH are committed to consider all submissions and comments made and will base their decision on all of the information provided, regardless of submission size.

11. Lack of Unity in Opinion

Some feel that the Community Association are claiming a united opinion in wanting the firebreak but this is misrepresented.

While some community members are very proactive, OEH are bound to consider all comments and submissions and are of the understanding that one group may not necessarily speak for the entire community.

12. Government Input

Why has the Bushfire Risk Assessment not been taken into account in deciding what should be done?

The preferred option developed by OEH takes into account all available information.

Is the Minister for Environment and Heritage aware that the Bushfire Risk Assessment does not support further clearing?

The Minister will be made aware of all documentation received by OEH.

Is the Member for Bega aware of this?

OEH will ensure that the Member for Bega is appropriately briefed.

13. Insufficient consultation

Some residents feel that the notice given of the community consultations was insufficient

OEH worked with the Potato Point Community Association in establishing dates and times for community meetings. On occasions, specific requests by the Association could not be met in relation to dates and times due to Consultant's other engagements.

The public submission process also allows community members an opportunity to provide additional information.

14. Compromise solution

A compromise solution has been provided which adopts the following strategy: Follow option 1 (selected tree removal), define the HR areas within 1km of Potato Point, conduct mosaic burns at 2 and 4 yearly intervals, clear vegetation to PBP levels (reduction of 80% of tree cover) to the west of Jemison's track for 50m and mow the

cleared areas annually. Continue negotiation between NPWS and community to determine a better solution.

The REF can consider only one option in full and considered the preferred option as requested by OEH. The above strategy has been noted.

15. Maintenance

Who would become responsible for the maintenance of the new fire break if the works were to be approved.

The maintenance of the new fire break would be the responsibility of NPWS in conjunction with agreements made with the local RFS and local community members.

Some members of the community have expressed a desire to be involved in ongoing maintenance. This option will be explored with the community.

There is a lack of detail in regards to the maintenance program suggested for the preferred option.

The maintenance program for the new fire break will not be completed until it is known that the expansion will be conducted. The REF mentions the Maintenance program to ensure that one is implemented should the works proceed.

16. Protection of southern boundary due to risk

The southern boundary is supposedly a fire risk according to residents and any efforts made to improve safety should focus on this area in particular.

The REF can only consider one option and the option preferred by OEH does not include details for the southern boundary.

17. Management of existing fire break and infrastructure

Some feel that the current standards of maintenance for existing breaks and of the fire trail at Jemison's Point is insufficient.

It is felt that HR burns at Jemison's Headland would be a useful way of reducing potential hazard to the community.

Management of the existing fire break and Jemison's Headland was not the focus of the REF. However, the above point is noted.

18. RFS Fire Shed Protection

Bush surrounding the RFS Fire shed should be included in the clearing program

The study area used by the Consultants and provided by OEH is in accordance with the Ministers Commitment. The area surrounding the RFS Fire shed was not part of the Study area. The recommendation has been noted.

19. Worst case scenario from Dr Tolhurst considered inadequate

Dr Tolhurst is an expert in his field and provides expert advice on wildfire behaviour prediction, landscape scale fire ecology management, fire risk management, and the development of prescribed burning techniques and guidelines. He also provides advice on fire suppression at major bushfires. His expertise is recognised through his advice in the Black Saturday fires in Victoria in 2009 and numerous inquiries, court cases and the 2009 Victorian Bushfires Royal Commission. Dr Tolhurst is considered by OEH to be appropriately qualified to provide the expert advice contained within the BRA.

20. Historical clearing

The history of clearing for the site should allow for the continued clearing and expansion of fire break.

Historical clearing is used as a precedent for clearing and this historical evidence was considered in the SIS and REF. Given that the vegetation has regenerated, it is now the subject of various environmental legislation.

21. More responsibility on local bodies to determine protection measures

It is felt that the RFS should have the authority to determine the protection measures that are suitable to the local community.

The RFS has the responsibility of ensuring that fuel loads within a local community are at an acceptable level. They work in conjunction with other bodies to provide an overall level of safety for the community. This is given effect through the District Risk Management Plans

22. Responsibility of individual land owners

Some Submissions feel that greater responsibility should be undertaken by each individual landholder to provide adequate fire break and protection within their own land holding

It is recommended that the RFS develop a plan with the local community to keep fuel levels of individual land holdings at an adequate level.

23. Insurance issues

It has been questioned 'who will be underwrite the insurance claims for houses lost due to ember attack if the area is 'opened up'?'

Individuals are responsible for insurance policies on their own properties.

24. Planning and Approval process

Some feel that the Minister should be able to make a ruling at their discretion regardless of supporting documentation

The process is guided by legislation which the Minister is bound to.

The measures taken are said to exceed guidelines and this is considered to be too much.

Best Management Practices, particularly for proposed works in environmentally sensitive locations, often exceed guidelines and ensure the ultimate benefit to the environment and to the community. The REF and SIS have been prepared in accordance with state and commonwealth guidelines for biodiversity assessment and species surveys.

The 'do nothing' option would be contrary to the Ministers commitment, however some residents feel it is the best option as the assessment process is flawed. The do nothing option also saves money on construction and maintenance.

OEH has committed to determining which option is in the best interests of the community based on the information provided in the REF, SIS and BRA. These views will be taken into account. The sole reason for not going ahead with the project should be based on a decision using all available information, not just the financial component.

[26. Rights to Appeal](#)

Some residents want to know what rights of appeal are available should an undesirable option be chosen

Individuals should seek their own advice on how to appeal any decision made by OEH as the determining authority.

27. Community Consultation

Some have asked who chose the panel of speakers for the Community forum and why was their information conflicting with Dr Tolhurst?

OEH engaged EnviroKey and Dr Kevin Tolhurst to attend one, or both of the community meetings. Each Consultant specifically addressed their area of expertise. It is the decision of OEH to consider the advice from all three environmental reports before making a determination.

28. Reporting

How much has been spent on studies?

OEH engaged Consultants to undertake the required studies which form the basis of the initial request to restore the firebreak by the Potato Point Community Association. Signed contracts between OEH and its Consultants included Confidentiality clauses.

And how much would it have cost to get clearing works done consistently in the past?

It is not the purpose of the REF or the SIS to speculate as to the cost of clearing works in the past.

More detail in regards to a long term plan is requested as option 2 is inadequate but is considered a good starting point.

Until a determination is made on the proposed works, the preparation of any management plans is premature.

Current documentation is considered only partially acceptable to addressing the issue.

The three environmental reports are the basis to allow OEH as the determining authority, to make a determination on whether to proceed or not with the preferred option.

A comprehensive Fire Protection Strategy was hoped for as opposed to 'some clearing options'.

OEH requested a Bushfire Risk Assessment from Dr Tolhurst; not a Fire Protection Strategy.

Outcomes of reporting seem disappointing after amount of time and money spent with no acceptable outcome

Consultants were engaged to deliver an REF, SIS and BRA. OEH as the determining authority, has the responsibility of choosing a preferred option. The preferred option is the one deemed most appropriate by the determining authority using the information in hand (REF, SIS and BRA) for making a determination.

Locations of endangered fauna were located outside of the areas relevant to consideration.

A total of 111 species of fauna were detected within the locality while 89 of these were within the boundaries of the study area. Six threatened fauna species were identified within the boundaries of the study area. As can be appreciated, fauna species are not stationary, and their presence in the study area confirms habitat occupancy which can be extrapolated to fauna habitat types.

29. Survival rates of Flora and Fauna in the event of a fire

How many endangered species of wildlife and flora would survive a fire such as that of March 1985?

Without specific flora and fauna data relevant to the study area from 1985, this is uncertain. However, flora and fauna in the Australian landscape have adapted to fire over the years and have mechanisms for survival and regeneration. Some species of flora, in fact, require fire to regenerate and a number of species rely on fire to 'clear the path' so that they can grow without being outcompeted by more hardy species, which colonise an area to the exclusion of other species. Fire is an essential component in the structure and function of native bushland.

30. Requests for adequate steps to be taken to protect the residents. Essential to restore an effective fire break for the community

OEH has provided a preferred option that provides a fire break commensurate with the advice of Dr Kevin Tolhurst in the BRA.

31. Enhanced wellbeing as a result of works

Some commenters question if the community will be safer as a result of the proposed works?

Based on the Consultants reports requested by OEH, the most appropriate course of action will be determined bearing in mind the impact on the community and on the relevant flora and fauna. The purpose of the REF is to assess the impact of the preferred option as chosen by OEH.

32. Potential affects on Aboriginal and Cultural Heritage items

OEH engaged NSW Archaeology to prepare an Aboriginal Cultural Heritage Assessment Report. The assessment was conducted in accordance with OEH guidelines in regard to Aboriginal Cultural Heritage and consultation with the Aboriginal Community.

Based on the results of that assessment and consultation with the Aboriginal community, an Aboriginal Heritage Impact Permit is being sought by OEH for the proposed works.

33. Consultants reports failed to give adequate weight to the durability and regenerative ability of the vegetation

The SIS acknowledges that the study area has substantially regenerated over a period of 33 years (p. 73). The regenerative ability of the vegetation is well known by the senior personnel utilised to prepare the REF and SIS.

34. Authorities held to account if action not taken now

OEH has continued to work to meet its obligations under the District Bushfire Risk Management Plan.

35. Value of environment

Some feel too much importance is being placed on the welfare of the endangered flora and fauna at the cost of human welfare

The REF and SIS has been prepared in accordance with State and Federal legislation and provides an extensive information base to assist OEH in making a determination. The REF and BRA also provide extensive commentary on components for consideration other than biodiversity.

3.3 SUBMISSIONS FROM ORGANISATIONS

Submissions were received by Eurobodalla Shire Council, Department of Primary Industries (Batemans Marine Park), Eurobodalla Greens and Tuross Lakes Preservation Group These are summarised and an appropriate response made in **Table 4**. An extensive submission (34 pages) was made by the Potato Point Community Association. That submission is summarised and an appropriate response provided in **Table 5**.

Table 4: Summary of issues raised in submissions by various organisations.

Issues raised (not in any ranked order)	Response
Submission by Eurobodalla Shire Council	
Measures proposed inadequate Council feels that the measures proposed, both options 1 and 2 fall way short of Councils position.	OEH has developed the preferred option with consideration of all available information. As the proponent and determining authority, this is the responsibility of OEH.
Retained vegetation exacerbates potential fire risk.	The BRA provides detail that is contrary to the position of Eurobodalla Shire Council.
Request that OEH continue dialogue with Potato Point Community Association.	OEH have continued dialogue with the Potato Point Community Association since the Stage 1 works in 2013 through a series of community meetings, direct contact and email. OEH has also committed to discussing the proposed works with all interested

Issues raised (not in any ranked order)	Response
	parties and groups and continues to do so.
We ask that further works be implemented well prior to next summer fire season.	Pending a determination, OEH have committed to undertaking the proposed works before next summer.
Submission by Department of Primary Industries – Batemans Marine Park	
Degradation of native vegetation along NSW watercourses has been listed as a key threatening process.	The REF and SIS specifically considers potential impacts to native vegetation along the ephemeral watercourse that traverses the study area.
A 100m riparian buffer to the waters edge would normally be recommended for this location.	An appropriate buffer was considered in the options considered within the REF. The preferred option includes a buffer commensurate with current standards (p. 42 of REF).
Stormwater leaving the site should comply with the water quality benchmarks as expressed in the NSW Water Quality Objectives (developed in accordance with the ANZECC 2000 Guidelines).	The preferred option considers the quality of water leaving the study area once the proposed works are complete. Nonetheless, OEH would maintain appropriate erosion and sediment controls for a long as required.
Sediment and Erosion control measures must be consistent with “Managing Urban Stormwater: Soils and Construction” (NSW Landcom, 2004).	The REF already outlines mitigation measures consistent with this document (p.49, REF).
Water Quality objectives must be met for water being discharged from the study area.	Noted.
Submission by Tuross Lakes Preservation Group	
Landholders will still need to carry out fire protection works close to structures.	The RFS has the responsibility of ensuring that fuel loads around dwellings is kept to an acceptable level. The RFS has the power to act on this without landowner permission if necessary. The RFS is reviewing the Potato Point Community Protection Plan which will involve community meetings and workshops to explain the process and provide opportunity for input.
A severe reduction in shrub cover within 40m of houses	As above.
Additional funding be provided to NPWS Narooma to carry out the proposed works under Option 1 and the ongoing maintenance involved.	Noted.
Submission by Eurobodalla Greens	
Potential affects on Aboriginal and Cultural Heritage items.	OEH engaged NSW Archaeology to prepare an Aboriginal Cultural Heritage Assessment Report. The assessment was conducted in accordance with OEH guidelines in regard to Aboriginal Cultural Heritage and consultation with the Aboriginal

Issues raised (not in any ranked order)	Response
	Community. Based on the results of that assessment and consultation with the Aboriginal community, an Aboriginal Heritage Impact Permit is being sought by OEH for the proposed works.
The 'do nothing' option is the best option.	OEH as the proponent makes the decision on the preferred option. Noted.
Eurobodalla Fire Risk Management Committee should be left to formulate local Fire plans.	The REF, SIS and BRA do not provide a local fire plan. OEH will work with the RFS and local authorities on any local fire plan.
Community Association are claiming a united opinion in wanting the firebreak but this is misrepresented.	There was little doubt that after the last community meeting on the 22 March 2014 (detailed in the REF – Appendix 2) that a united opinion was not the case. OEH designed the content of community meetings to ensure that the full range of community opinion was heard and through the Submissions process, this could be documented.
It is felt that continuing through with this proposal would set a precedent for NPWS to be responsible for the fire break protection of a huge number of communities especially those with high fire risk.	Noted.
The measures taken are said to exceed guidelines and this is considered to be too much.	Noted.
Further clearing would have the potential to cause damage to the population of fauna and the integrity of the threatened ecological community.	The SIS has provided OEH with a comprehensive assessment of the potential impacts of the preferred option. A determination on whether to proceed with the preferred option or not will be made by OEH under Part 5 of the <i>Environmental Planning and Assessment Act 1979</i> .

Table 5: Summary of issues raised by Potato Point Community Association and an appropriate response.

Issues Raised	Response
Methodology	
Consultants didn't Clearly define the objective	The REF provides a range of information that clearly defines the objectives of the proposed works.

Issues Raised	Response
Consultants failed to assess a range of options	Options were developed by OEH through the results of on-ground field surveys. Analysis of options presented in REF is detailed in Section 4.
The three reports define a pre-determined outcome from the onset.	OEH as the proponent and determining authority, select the preferred option for the proposed works. The REF and SIS can assess only one option in full; that is the preferred option.
OEH failed to offer 2-4 options for community consideration. OEH failed to seek community feedback on a range of options.	OEH and its Consultants undertook community consultation to understand the views of the community. OEH proposed three options for consideration in the REF. OEH as the proponent and determining authority has full authority on selecting the preferred option – not the community.
Documentation fails to define and analysis so as to justify that outcome.	OEH selected the preferred option based on a review of all available information.
Reports fail to properly research all factors prior to any consideration of options.	OEH and its Consultants have undertaken extensive onground and desktop research prior to OEH developing a preferred option.
Fails to provide reasons why Option 1 will provide effective fire protection and why it should be preferred.	The preferred option selected by OEH will consider the expertise advice of its Bushfire Consultant, Dr Kevin Tolhurst.
Fails to propose a list of options to the Minster for decision.	The purpose of an REF is to consider a single option as the preferred option. EnviroKey were engaged to prepare the REF based on a preferred option developed by OEH.
What is the protective value of the Phase 1 (Stage 1) works.	The Consultants reports considered the effects of Stage 2 only. Stage 1 was part of a previous engagement.
The value of Stage 2 works.	The Bushfire Risk Assessment details the effectiveness of the proposed Stage 2 works.
The design or development of a comprehensive plan beyond the formal study area.	This is broadly the purpose of the District Bushfire Risk Management Plan. A Fire Management Strategy developed by OEH is in place for Eurobodalla NP.
Lack of protective measures for the southern flank of Potato Point.	The study area used by the Consultants and provided by OEH is in accordance with the Ministers commitment. The southern flank was not part of the study area.
Failure to design, develop or describe maintenance for the firebreak.	OEH has committed to preparing a maintenance plan (post-approval) with the RFS and local

Issues Raised	Response
	community should the Stage 2 works be approved.
Modelling	
Fails to build the practical reality of local residents taking charge around their homes.	The RFS has the responsibility of ensuring that fuel loads around dwellings is kept to an acceptable level. The RFS has the power to act on this without landowner permission if necessary. OEH recommend that the RFS develop a plan with the local community.
NPWS has misused the term park-like – likely misconstrued in Bushfire Risk Assessment.	Dr Tolhurst has undertaken his Bush Fire Risk Assessment after having completed a site visit and has an understanding of the existing environment of the Stage 1 works. Regardless of the terminology applied, the areas have been assessed according to existing conditions.
Phase 1 (Stage 1) works do not appear to have removed 80% of the overstorey.	OEH are of the opinion that 80% of the overstorey has been removed. This judgment is confirmed by the contractors undertaking the Stage 1 on-ground works.
Larger areas and greater % clearing proposed for APZ.	OEH is the proponent and the determining authority. OEH has developed the preferred option based on commitment from the Minister in that the environmental assessment will also take into account core environmental values.
Species Issues	
The bulk of the documentation ignores that the study area and beyond comprised grassland. Fails to acknowledge fire history.	The SIS (included in the appendices of the REF) provides an extensive account of the past land use history and fire history provided by OEH, the Community Association and other sources.
No threatened flora were recorded in the study area.	SIS states that no threatened flora were recorded in the study area (p.78).
The SIS and REF falsely portray the study area as being critical to the future survival of several flora and fauna.	Both documents detail the existing environment, and the flora and fauna currently resident. Accompanying Impact Assessments prepared in accordance with State and Federal legislation focus on the impacts of the works as of now, not in the future (as required by legislation).

Issues Raised	Response
REF and SIS place emphasis on potential for weed intrusion. Believe documents are contradictory as study area is relatively weed free.	Weed species were recorded within the study area. In addition, many of these were garden escapees from adjoining dwellings. It is scientifically agreed that weed invasion increases with increased edge effects as a result of clearing. Potential for weed invasion is not considered to be over emphasised, particularly given reports to the contrary for Swamp Oak Floodplain in the South-east Corner Bioregion.
Most species detected well beyond the study area. Bulk of sightings more than 1km distant.	Incorrect. Of the 111 species of fauna detected in the locality, 89 of these were in the boundaries of the study area. Six threatened fauna species were detected within the study area.
Glossy Black Cockatoos feeding across the region on extensive areas of black she-oak.	Glossy Black Cockatoo and signs of their foraging, were mostly detected within the boundaries of the study area despite extensive searches across the locality. The presence of mature Black She-oak does not necessarily imply known foraging habitat as the species has specific preferences for individuals feeding sites. Additional surveys may reveal additional foraging locations in the locality.
The only other animal of interest reported more than once in the study area was the Square-tailed Kite.	Incorrect. Striated Fieldwren was detected more than one occasion. In addition, the two threatened microbats were detected immediately adjacent to the study area boundary, and as acknowledged by the SIS, these species are highly mobile and their non-detection within the study area on more than once occasion can be attributed only to detection technique position placement, not lack of habitat.
Large populations of White-footed Dunnart exist to the north and south, and the reports do no emphasise this.	The locality defined for the SIS was a 5km radius of the proposed works. The SIS identifies all populations of White-footed Dunnart within the Eurobodalla local government area and other known populations on the NSW (p. 156)
White-footed Dunnart are not listed as an endangered ecological community or critically endangered ecological community.	The REF and SIS never state that White-footed Dunnart is listed as an endangered ecological community or critically endangered ecological community. The species is listed as Vulnerable under the NSW Threatened Species Conservation Act 1995 (p.160).

Issues Raised	Response
<p>The only fauna type that was detected in the study area that is listed as endangered is the Striated Fieldwren.</p>	<p>The SIS does identify that Striated Fieldwren was detected in the study area, and adjoining areas (p.78, Map 13).</p>
<p>A primary reason why the Striated Fieldwren is endangered is that the tussocky grassland and coastal headland, on which it thrives have been seriously degraded or overrun by trees, shrubbery and other species.</p>	<p>The SIS acknowledges the key threats to Striated Fieldwren (p.116). The OEH website states that habitat loss (through clearing), weed invasion and damage by stock are the key threats.</p> <p>The Striated Fieldwren occurs in coastal swamp heaths, which is consistent with the Swamp Oak Floodplain Forest present in the study area. These habitats have naturally occurring trees.</p>
<p>NPWS document fails to highlight is that in order to improve the prospects for the only endangered fauna detected in the study area, it is important to markedly expand and protect the areas of tussocky grassland and coastal headland.</p>	<p>The SIS acknowledges that a series of management strategies are needed to mitigate the potential impacts of the proposed works (if approved) (Section 7).</p>
<p>Serious inconsistencies and importance of so-called creeks and wetlands. Creek is frequently completely dry.</p>	<p>The REF and SIS describe the aquatic environments within and adjacent to the study area. In both documents, there is no reference to 'creek' in the study area. On a single occasion it is referred to as a creekline, but in general, it is referred to as a drainage line and one that is 'ephemeral' in nature.</p>
<p>So-called wetland is really just low grassland that in recent years has been overtaken by regrowth forest.</p>	<p>Wetland No. 136 has been mapped under the NSW State Environmental Planning Policy No. 14.</p> <p>The wetland had some surface water at the time of the survey. The presence of Swamp Oak Floodplain Forest confirms that regrowth vegetation would form around the periphery of this wetland under appropriate management.</p>
<p>Inconsistencies in hydrological reporting.</p>	<p>The pre-existing impacts (road and dam) were acknowledged in the SIS. No comment was provided on whether it was 'acceptable'. Indeed culvert crossings and dams are known to have potentially serious implications for many wetland ecosystems. The REF and SIS assessed the potential impacts of the proposed works, not existing infrastructure.</p>

4 CONCLUSION

Under Part 5 of the *Environmental Planning and Assessment Act 1979*, OEH is the proponent and determining authority of the proposed works. The exhibition period was provided to ensure that OEH has all of the relevant information when making a decision on the proposed works.

This Submissions report provides OEH with an opportunity to review information submitted during the public exhibition period.

5 APPENDICES

APPENDIX 1 – COPIES OF SUBMISSIONS

Submission 1

As a resident of Potato Point I do NOT support anymore work to be done in clearing of the National Park Bushland at Potato Point.

With the fire risk and environmental report now on public display, it is clearly evident that this area in question, which is after all

NPWS land, needs to be managed by them. As result of these studies we

now know, there are endangered fauna along with an endangered ecological community, we also have a better understanding of bushfire, and even though we are a fire-prone area (as is most of south eastern Australia) Potato Point has a relatively low fire risk. There would be no benefit in more clearing with the existing firebreak being adequate.

Submission 2

I do not want any more work done clearing the National Park at Potato Point. The Fire Report shows that we are low fire risk. The Environmental and Species Impact Study shows this area is special and needs to be protected, especially as we now know there are threatened fauna species and an endangered ecological community in this little piece of paradise.

Submission 3

We are strongly of the view that no further clearing should take place. It is clear from the Bushfire Risk Assessment prepared by Dr Kevin Tolhurst that the fire risk to Potato Point is low. It is also clear from the Species Impact Statement prepared by EnviroKey that the area slated for clearing has environmental value that will be diminished if the proposed works take place. The only rational conclusion from the evidence is that there is no point in doing the proposed works. The only result would be environmental damage with no counterbalancing reduction in fire risk.

In the light of the evidence from the environmental and fire risk assessments it is clear that the campaign pursued by the Potato Point Community Association is misconceived and should not be allowed to drive this issue. It is also clear by now that the community is divided, and the Community Association's claim that it speaks for the whole community is wrong.

Beyond this basic position, we have other concerns with the way this issue is being handled:

1. The process is flawed. We are not aware of the precise terms of the 'commitment' of the previous Minister for Environment and Heritage, but it was taken before any evidence was assembled as to the need for extending the fire break or the environmental value of the area in question. It was a case of putting the cart before the horse. It does appear however from the way the Minister's commitment is described in the Review of Environmental Factors that it was 'subject to environmental assessment' (REF p23). If this caveat is to

have any meaning, the content of the assessments should determine whether or not the decision is implemented and in what manner.

2. The fundamental question is 'Does Potato Point need an enhanced fire break'. It is only if the answer to this question is 'yes' that considerations of environmental impact need to be addressed. This means that the Potato Point Bushfire Risk Assessment is the crucial document, which should determine whether or not any action takes place. With this in mind, it is a cause for dismay that the Risk Assessment is not even mentioned in the Review of Environmental Factors. The Risk Assessment makes it abundantly clear that the present Asset Protection Zone is adequate, that there is no benefit in terms of reducing the risk to houses in either of Options 1 or 2 outlined in the REF and that the outcome so foolishly proposed by the Community Association, of a cleared zone extending 200 metres, would actually increase the fire risk (Fire Risk Assessment pp 27-29). Why has the Bushfire Risk Assessment not been taken into account in deciding what should be done? Is the Minister for Environment and Heritage aware that the Risk Assessment does not support any further clearing? Is the Member for Bega aware of this?
3. The REF has not only ignored the Bushfire Risk Assessment's conclusions, but has actually misrepresented them. In reviewing likely community impacts, the REF states (p54) that the proposed works would have a 'high positive' impact on community safety and that 'the proposed works are designed to provide bushfire protection for the village'. This is inconsistent with the Bushfire Risk Assessment, which demonstrates that the proposed works will have no impact on community safety. The Risk Assessment is the document that should be given priority on this question. Surely this is the point at which the REF should be taking in the expert advice provided to OEH, rather than creating the impression that the proposed works have some community benefit, when clearly they do not.
4. The process should also be looked at more broadly as an undesirable precedent. There are in place bodies for the management of bushfire risk, such as the Eurobodalla Bushfire Risk Management Committee, along with parallel bodies in other districts. These are the bodies that should be considering issues such as this. We note that the REF states (p23) that the proposed works would 'exceed' the requirements of Planning for Bushfire Protection guidelines and the Eurobodalla Bushfire Risk Management Plan. This is bad policy. If procedures and institutions can be overridden on the basis of ill-informed and emotional community opinion, there is a risk that many other areas of national park could be destroyed to no purpose.
5. We fear that the REF may be underestimating the disadvantages inherent in Option 1, in particular soil erosion, feral animals and weed invasion. We see that Section 7 of the Species Impact Statement refers under 'ameliorating measures' (p168) to a Weed Management Strategy and a Feral Animal Strategy. But it gives no detail of what these might consist of, nor of what would happen if it turned out that the clearing had led to damage as a result of these factors. Similarly, while the ameliorating measures refer to a Threatened Species Monitoring Plan, what happens if the monitoring shows that there have been adverse impacts? By then it would be too late to restore the pre-clearing habitat.
6. We see that the only disadvantage listed in relation to Option 3, 'Do Nothing', is that it is inconsistent with the commitment given by the Minister (p22). In the light of the flaws in the process, we urge OEH to refer the issue again to the Minister, drawing his attention to the

Fire Risk Assessment's rating of the risk to Potato Point as 'low' and the Species Impact Statement showing that there will inevitably be damage to the habitats of threatened species and to an endangered Ecological Zone. We urge you to propose that in the light of these assessments and the advice that the proposed works will do nothing to reduce the bushfire risk to Potato Point, the Minister advise the Community Association that there would be no point in undertaking any further work. Such an outcome would be very welcome to many Potato Point residents and ratepayers.

Submission 4

It is impossible to determine the NPWS's overall strategy for the bush fire protection of the Potato Point Village from the documents on exhibition. These reports do not address the frequency and areas considered for hazard reduction, the widths and extents of fire access trails and the proposed method(s) of maintenance of the areas cleared of undergrowth.

It is difficult to understand NPWS opposition to Community efforts to improve the fire safety of the Village in the light of the release of the Bureau of Meteorology and CSIRO's "State of the Climate 2014". Australia is getting hotter with anticipated scenarios of even higher temperatures and extreme fire days.

Kevin Tolhurst's presentation at the Community meeting of 22 March 2014 compared apples with bananas to suggest that Potato Point has **RELATIVELY LOW** fire risk. Many of his assumptions could not be challenged at the meeting due to time constraints imposed by the NPWS. His report also contains a number of unexplained contradictions. This left a number of Community members with the impression that the fire risk is low and that any clearing would increase the fire risk. **This is a misrepresentation of facts** which I am happy to discuss in detail. It has created divisions within the Community. Furthermore item B of the NPWS's Brief requires Tolhurst to consult with the Community. I am unaware if or when consultations took place and what was established.

The Envirokey report navigates a path through the legislation invoked for the possible clearing of may be 4 to 6 hectares and even if a strip 200m wide and 2km long were cleared of undergrowth the area would be 40 hectares. A 5km radius assessment area is 7854 hectares. Thus the area proposed for treatment amounts to 0.5% of the area. Was the same rigid process was implemented when the NPWS cleared a 20m wide strip for about 1km and created a new track about 750m long? It is noted that the report makes an issue of possible erosion after the removal of some trees and undergrowth, however elsewhere in the report it states that this clearing would result in a 200mm mulch layer. It is difficult to see erosion occurring under these circumstances. The detailed fauna observations were comprehensive, it was noted however that most locations shown on the map were outside the areas of the options under consideration.

My preference as previously communicated to you via the meeting ballot box and by email since (not acknowledged) is option 2, which was rejected on doubtful grounds.

In summary a compromise solution along the following lines would in my opinion provide a satisfactory solution to the Fire Risk Management at Potato Point:

1. Adopt Option 1
2. Define hazard reduction areas in the NP within 1 km of the Village
3. Do mosaic burns in these areas at 2 to 4 year intervals
4. Clear 80% of trees and undergrowth west of and along the Jemisons access track for a width of 50m
5. Mow cleared areas annually

Submission 5

As permanent residents of Potato Point we wish to take the opportunity to record our thoughts upon the material commissioned by NPWS and prepared by firstly Envirokey & secondly Dr. Kevin Tolhurst in respect of the Potato Point Firebreak campaign.

Firstly let us state that we are extremely disappointed with the options put to the community in respect of fire protection for the village of Potato Point. We are not at all convinced by the Consultants reports that the “do nothing” option nor the alternative two options will provide any substantive improvement in terms of fire protection than that which the village faced immediately prior to this exercise commencing.

Further we note the following:

- There is nothing whatever in any of the material in regard to a maintenance program relating to any of the options stated including the preferred option when this had been repeatedly stated by Tim Shepherd of NPWS would be the case.
- Again there is nothing in the material with respect to the protection of the southern boundary of Potato Point when again this had been mentioned at community meetings with NPWS. This is particularly surprising given that the fire risk from the southern flank has long been recognised.
- As members of the Potato Point RFS we are concerned at the lack of “treatment” of the Jemison’s Point Fire Trail. What work has been done is extremely limited and in no way provides safe access/egress for fire vehicles to attempt a back burn in the event of an oncoming fire. Indeed in parts of the trails on Jemison’s headland itself timber bollards have been placed in the trails which would prevent access or egress thus giving potential for serious injury or loss of life in a fire situation. Speaking as RFS volunteers we would be most reluctant to take a fire vehicle into Jemison’s fire trail in its current state in the face of an oncoming fire.
- Tim Shepherd of NPWS stated on a number of occasions to us personally & indeed to others that he was in favour of applying hazard reductions to Jemisons headland. Again no mention in the material.

Allow us to comment on the Consultants reports.

Envirokey.

We make the following points:

- Since the subject area was taken over by NPWS approximately 15-18 years ago considerable regrowth has taken place. Prior to that time & for approximately 100 years the area had been logged and was substantially grassland & grazing country. Envirokey express concern at the prospect of clearing this regrowth area & note the threat of infiltration of weeds. Yet on page 163 of their Species Impact Statement they state that there is an almost total lack of weeds within the study area.
- We note that no threatened flora was found in the study area.
- Much has been made of the discovery of the White Footed Dunnart within the study area. Yet what is not made clear is that relatively large populations of this fauna exist both north & south along the coast. It is stretching credibility to suggest that given the very small area of land involved in the study area the “relatively large populations” to the north & south would be in any way threatened by activity in the nature of enhanced fire protection for the village of Potato Point. This argument applies equally to many of the other species identified; ie that action to enhance the safety of Potato Point will do little if anything to impact on the future wellbeing of fauna in the surrounding area & even within the study area itself.

Dr. Tolhurst’s Report.

Whilst respecting as we do Dr. Tolhurst’s expertise in the area of fire science we note that he has been given certain parameters within which to report. Those parameters include as WORST CASE SCENARIOS the following;

Temperature: 40C

Relative Humidity of 10%

Wind 50-60 kph from the west-northwest; followed by

Southerly change at 30-50 kph for two hours.

Any resident of Potato Point well knows that such “worst case” parameters are simply unrealistic. There are numerous examples throughout recent years when considerably higher temperature and wind speeds [from the stated directions] coincided at or about the relative humidity above. Thus whilst not challenging Dr. Tolhurst’s modelling in this instance he has been bound to work within parameters that are not, nor should they be seen to be representative of a “worst case scenario”. Furthermore Dr. Tolhurst acknowledged that his modelling is “sensitive” to any changes in any one of those parameters. If one was to speculate on the issue of “global warming” arguably the worst case temperature parameter will only increase?

It is also noted that Dr. Tolhurst says little of the 1985 fire that threatened and indeed very nearly destroyed Potato Point but for a most timely southerly wind change. The temperature on that occasion was in the low 30’s yet the fire almost reached the back fences of properties in Deraquin Street. This all occurred when the western side of Potato Point was

cleared for some distance [there is much photographic proof of this] rather than the regrowth forest circumstances that presently exist. This goes to highlight the “sensitivity” of Dr. Tolhurst’s modelling to changes in any one of the “worst case” parameters. We are not aware of the wind speeds on that occasion.

We are left to conclude that were realistic “worst case scenario parameters” applied to the modelling the results would paint a significantly more dangerous picture in terms of the fire risk facing Potato Point.

In conclusion we say thankyou for the opportunity to comment.

Submission 6

I am at a loss to understand why there needs to be environmental or any other studies regarding the restoration of the Potato Point fire break

The land in question has been severely modified over a period of over a hundred and fifty years (possibly thousands of years by the indigenous peoples)

Any flora or fauna in the area now, would be there only for a temporary period whilst the area re-vegetates.

When the village was built, and up until the time NPWS took over, the area was lightly treed open grass land.

If NPWS was serious about regenerating the area to what it may have been, they would be keeping it as basically grass land, and planting spotted gums.

I cannot believe that for the sake of around one square kilometer of land of relatively insignificant importance,

(an incredibly small percentage of overall land) that the NPWS is ignoring the concerns of the local residents and placing their safety at risk and wasting extraordinary amounts of public money.

Submission 7

We the undersigned residents and rate payers of Potato Point do NOT support ANY further clearing of the National Park Bushland at Potato Point because

1. The area in question has been shown by the environmental study to be a special place with endangered fauna and an endangered ecological community.
2. The fire risk report, by Dr Kevin Tolhurst, one of Australia's leading respected fire scientists, shows that the risk to Potato Point is low and that the firebreak being demanded would not significantly reduce this low fire risk any further.
3. The findings and strong scientific evidence presented in the environmental study and fire risk report show that the proposed firebreak would be a mistake.

4. The only 'disadvantage' of the 'no change' option in the Review of Environmental Factors is the previous minister's decision that clearing should be done. However this decision was made before the environmental and fire risk studies were done and at a time when the community association created the misleading impression that the local community was united in its demand for a firebreak.

5. Technical issues relating to fire management should be taken by the appropriate fire management authorities and should not be the subject of emotional and misguided local politics.

Submission 8

Dear Sir/Madam,

I am the daughter of a rate-payer in Eurobodalla Shire, and have a Marine Science background. I holiday on the south coast frequently.

I am absolutely dismayed at the lack of respect for due process that this matter of a fire break for Potato Point has demonstrated. The following are my concerns:

- If blatant disregard for environmental and fire protection planning is a valid way to panda to an outspoken community spruiker in relation to the maintenance of a fire break, then why administer any approval process, legal framework or conservation ethic in NSW?
- At what point does the quorum for a so-claimed community association cease given dwindling support and disjoint respect of so-called community views? I note the number of articles to the Bay Post newspaper where residents like Trish Nightingale (16/4/14) have articulately questioned the principles and representation of the so-claimed Potato Point Community Association.
- As a voter I would be really upset – particularly under the present cloud of ICAC political party donations in NSW – if my donation for an electoral campaign had been manipulated for another political campaign – notably a fire break for a tiny coastal village. I find it curiously coincidental that the same trees supporting recent Liberal party propaganda for the Federal election were the following day supporting fire break messages for Potato Point – across this Shire. How is this?
- Why did the community bush fire meeting where the pre eminent bush fire expert in Australia was asked to present his findings, get rail-roaded into a sham where this speaker was given not 30 minutes to explain fire likelihoods, impacts and modelling used to support of his arguments? Furthermore, who chose some of the other speakers given the stage that day - the quality and basis of their presentations contrasted starkly with the rigour of Dr Tolhurst's? It appears the meeting plan for this meeting may have been hijacked by splinter groups of opposing ideology, and dubious standing. Dr Tolhurst's articulate manner, models, information and experience was exemplary and valuable to the cause of understanding bush fire threat, intensity & likelihood, the most fascinating on a local level being the house ignition loss index.

- The argument presented by Dr Kevin Tolhurst in his report, and backed by the University of Melbourne, is articulate, succinct, outstandingly professional and informative. I am at a loss for words about why any more clearing need be done (and indeed why any was done). This report about bush fire threat clearly shows more clearing is counter-productive. Why clear more when the aim of this whole matter was to protect Potato Point?
- Some live-away residents of Potato Point may have elected not to insure their properties against fire. Thanks to OEH and Dr Tolhurst's report we can now clearly see that a Great Grassy Firebreak of width 10 cricket pitches or more will actually deliver a poorer asset protection outcome for village residences. Should not then the misguided and disproven belief to obliterate all vegetation within 600 m of Potato Point be heralded as environmental vandalism?
- Fortunately minutes of community meetings about this matter are available on the OEH website. Maybe the community is resigned to a lower threat from bush fire than one or two residents perceive. It is equally possible that the more common community perception is that the village is not under threat from bush fire, and most people do not want to be isolated from the surrounding ambience offered by a bushland setting. This is clear from the minuted quote from one Community Member summarised as *'we'll do what we've always done if there is a fire and that is go to the beach !'* ('CM', minutes 25/03/14).
- The Rural Fire Service now has programs and procedures to determine the size of fire break required to protect property & assets. Should not it be RFS to decide what break is needed to protect the village of Potato Point ?
- I have a long standing interest in the South Coast of NSW. Both Burrawarra Point (now Guerilla Bay) and Potato Point were dairy farms. Both villages now have about 100 private residential blocks in them, frequently owned by live-away, wealthy 'visitors'. Burrawarra Point has been recolonised by conservationists; Potato Point more by 'desertification-ists' (people at war with vegetation). These two ideologies are in stark contrast. The villages are only 40 km apart - so climate and natural vegetation types are likely similar. Surely, the precedent set in Burrawarra Point some 24 months ago where a village fire plan is displayed goes a long way to solving the Potato Point embargo. This lobs a large part of the responsibility for vegetation maintenance and bush fire preparation fairly and squarely on the resident, supported by collaboration and action by surrounding land managers.
- It is not the Shire's role to maintain just one massive fire break at the expense of dozens of others in the Shire. It is further likely that no amount of Rural Fire Service work will keep vegetation maintained along the 'Great Grassy Fire Break' - a strategic defence asset to isolate Potato Point from its western neighbours on the Greater Australian continent.
- A well maintained minimum fire break will always be more effective in preventing house loss from bushfire than acres of space that Council or residents cannot maintain.
- If granted – who will maintain the 600 m wide fire break on National Park? Surely not National Parks?
- If granted – who will underwrite the insurance losses if houses are lost through embers at the next bush fire impacting Potato Point – particularly now there is a report that says it would be crazy to make the break 600 m wide?

Let's make no mistake – this whole matter was about a firebreak to protect Potato Point. With the science now squarely in, a 200 m break or greater is counter-productive for protection of life and property. Any more vegetation clearing would be detrimental to the cause, and spoil the ambience of Potato Point with the abundant wildlife interactions enjoyed.

Potato Point is presently sufficiently protected from bush fire by a narrow band of modified vegetation that acts strategically to protect the village from bush fire, and provide environmental benefit. Importantly this narrow strip decreases wind speed, and it is these winds that carry the barrage of millions of embers that could threaten any asset in Potato Point in the face of threatening bush fire.

Submission 9

It is my view that we need access for the fire trucks to protect the village in case of fire. In order to allow this I believe that option 2 of the plans being considered is the best way to go for Potato Point. To me do nothing is not an option and option 1 does not give enough clearing. The only concern I have with option 2 is that it does not clear the area at all directly around our Fire Shed. I think it is important to also clear this area at some stage (or allow the RFS to do this).

A burnoff to reduce fuel loads on Jemisons headland would also be useful. However, in the short term I think Option 2 gives a nice balance between what the majority of the community wants and the ecological considerations.

Submission 10

Due to the expert environmental study and fire risk report. I propose no action should be taken to cause any further damage to the endangered ecological community and and endangered fauna

Submission 11

I have read all three very detailed reports on the matter of providing Potato Point with an enhanced fire break. I congratulate the relevant authorities on the quite voluminous reports that are apparently necessary to address the restrictive legislative requirements. But I question whether this very costly effort should have been necessary to address what should be a simple matter of better protecting Potato Point residents life and property. The legislation should have a mechanism whereby a public interest discretion is available to the relevant minister in cases where a fire break is clearly necessary. This makes even more sense in our case where a long existing fire break was working effectively, has now become overgrown because no maintenance was ever carried out and we now are prevented from returning it to its previous state. The three reports all depend on input data being correct. While I am not a fire or forest expert I see no reference to the 45 plus degree days that do occur in Potato Point. The inclusion of a Narooma temperature average chart in Dr Tolhursts report is completely meaningless. Fires don't start as a consequence of average temperatures they start at very high temperatures which are largely ignored in the report! As a local pilot aware of winds I also don't agree with the view put forward on the short

duration of Southerly winds. It does seem to me all three reports do not take account of intimate local knowledge such as weather conditions, actual experiences of the very frightening 1985 fires and the reality of the completely dry "wetlands" for most of the year. The principal consideration must be what can be done to best protect life and property and the recommendations in all three reports seem to be attempts to justify doing the very least possible. The experiences of past bushfires should serve as a warning to prepare before disaster and I am unconvinced that finding several animals in the vicinity of clearing a firebreak should prevent prudent bush fire break restoration. In the event of a bush fire the very animals mentioned would be wiped out. Further research on the white footed dunnat shows it's around local areas in great numbers and by no means is its survival threatened. The proposed fire break is absolutely minimalist and in my opinion does not meet its purpose of being an "effective" fire break. We need the original fire break restored to its original form as it clearly saved the village back in 1985. If there is a devastating future bush fire I would hope the relevant authorities are held to account if they fail to act now. I support the efforts of the Potato Point Community Association who have worked assiduously on behalf of all locals.

Submission 12

I hereby submit the following on Review of Environmental factors, Species Impact Statement and Fire Risk Assessment.

Thank you for the opportunity to submit comments on these reports. The costs of trying to allay fears of some residents of Potato Point are already high and the response from the Minister has set an undesirable precedent. Potato Point Community Association is misconceived and should not be allowed to drive this issue. It is also clear by now that the community is divided, and the PP Community Association's claim that it speaks for the whole community is wrong. Residents of other small settlements around the Eurobodalla may well request and expect similar expensive studies and works which they believe would reduce their bushfire risk. The resulting snowball effect would be the destruction of areas in more of our local national parks for no proven gains. It is the bodies that have been put in place to manage bushfire risk who should make informed decisions about local bushfire plans.

Preferred Option

Option 3 "Do nothing"

I am strongly of the view that no further clearing should take place. I support the do nothing option. Fire risk analysis shows the proposed Stage 2 works will not improve the protection of Potato Point village. Doing nothing also means there will be no impact on the Swamp Oak Floodplain Forest EEC, other threatened species habitat, SEPP 14 Wetland no: 136, and the surrounding environment. There will also be no impact on Aboriginal cultural heritage and no construction or maintenance cost. I see that the only disadvantage listed in relation to Option 3, 'Do Nothing', is that it is inconsistent with the commitment given by the

Minister (p22). In the light of the flaws in the process, we urge OEHL to refer the issue again to the Minister, drawing his attention to the Fire Risk Assessment's rating of the risk to Potato Point as 'low' and the Species Impact Statement showing that there will inevitably be damage to the habitats of threatened species and to an endangered Ecological Zone.

Potato Point Bushfire Risk Assessment 22 April 2014

It is clear from the Bushfire Risk Assessment prepared by Dr Kevin Tolhurst that the fire risk to Potato Point is low. It is also clear from the Species Impact Statement prepared by EnviroKey that the area slated for clearing has environmental value that will be diminished if the proposed works take place. The only rational conclusion from the evidence is that there is no point in doing the proposed works. The only result would be environmental damage with no counterbalancing reduction in fire risk.

Review of Environmental Factors

Proposed Fire Buffer Construction Works (Stage 2),

Eurobodalla National Park, NSW Far South Coast Region, 21 April 2014

This Review of Environmental Factors (REF) was commissioned by the New South Wales (NSW) Office of Environment & Heritage (OEHL) and released at the same time as the Bushfire Risk Assessment Report. The REF relates specifically to what are described as proposed Stage 2 works in Eurobodalla National Park to create a fire buffer to the village of Potato Point in addition to that already undertaken in Stage 1 works. This is putting the cart before the horse - it would have been logical to wait and see if the Bushfire Risk Assessment shows a need for more work. Conclusions of Potato Point fire buffer construction works in Eurobodalla National Park. this assessment do in fact show that these Stage 2 works are not essential to protect Potato Point village. Under the heading Reasons for Proposed Works, I am appalled to read that the Minister for the Environment and Heritage has committed NWPS to undertake the proposed works, subject to environmental assessment and protection of core environmental values. This commitment was in response to submissions made by members of the Potato Point Community Association, and was given before the actual fire risks were established. It is to be hoped that the Minister was also informed of the wide range of community views that were not in favour of further clearing work. The report goes on to reveal that the proposed works would result in the Potato Point fire buffer exceeding the requirements detailed within the Planning for Bushfire Protection guidelines and are in excess of the requirements of the Eurobodalla Bush Fire Risk Management Plan (RFS 2011). I believe that the Minister has been excessive in attempting to allay the concerns of some of the residents of Potato Point.

Species Impact Statement (SIS)

Potato Point Fire Buffer Construction Works (Stage 2),

Eurobodalla National Park, Far South Coast Region April 2014

My concern grows when I find the species impact of the proposed works to be carried out in the Eurobodalla National Park. Creating the enhanced firebreak, which the risk analysis shows will do nothing to improve the safety of houses or people, will result in the removal of 1.47 hectares of native vegetation and habitat from Eurobodalla National Park. The affected species comprised 19 threatened fauna and one endangered ecological community - the Swamp Oak Floodplain Forest - which will lose 1.03 hectares.

Submission 13

We wish to object to the conclusions drawn by the REF.

Our reasons include, but are not limited to the following:

The REF has ignored the historical vegetation and landuse on Potato Point and Jemison's Point. It was clearly demonstrated to the consultants at the Public Meeting at the Potato Point Fire Shed, through historical aerial photos, that around 1960 - 1970, the entire area was grassland or cleared area with no sensitive or valuable flora. This has not been recorded in the published minutes or addressed in the vegetation reports or analysis of the value or sensitivity of the area. The consultants have also failed to give adequate weight to the durability and regenerative ability of the vegetation.

The proposal referred to the consultants by the Minister for assessment was for the clearance of at least a 200m fire buffer. The option proposed by the consultants does not meet this objective.

The consultants have failed to adequately quantify their assertions that clearing along the lines of option 2 would increase erosion or sedimentation. It is noted that it is not intended to leave bare earth in the buffer zone and the additional areas proposed for clearing/thinning under option 2 are not on particularly steep ground or watercourses.

The consultants have failed to note that option 1 will leave the area immediately adjacent to the fire shed uncleared. If this is the case, all assumptions made about the defendibility of residences at Potato Point will be invalid due to the rapid loss of our fire fighting resources in the event of a bushfire from the west.

Please advise me what appeal rights exist if option 1 is the final recommendation of the consultants or if this recommendation is subsequently accepted.

Submission 14

Potato Point Community Association Submission Letter attached.

Submission 15

Current & envisaged works on providing an effective firebreak by NPWS & it's consultants give no confidence to local residents with regard to the safety & security of both homes & life.

Despite repeated requests, NPWS resisted any action until December 2013. No reasonable person could be reassured by the pathetic clearing performed to date. Statements by NPWS regarding this clearing & the "Fire Trail" bear no resemblance to the reality.

Is Potato Point's well being & protection enhanced to any degree by the current & proposed works?

Be assured the risks since the 1985 fire at Potato Point have grown exceptionally.

The lack of recognition by NPWS of this current situation is deplorable.

It is essential to restore an effective firebreak for Potato Point.

How much has been spent on "Studies"?

How much would effective & meaningful clearing work have cost, if implemented earlier?

How many "endangered" species of wildlife & flora would survive a fire such as that of March 1985?

The velocity of the fire only lessened when the crown fire met the cleared grassed area.

Please take adequate steps to restore the safety & security of "endangered" residents & property at Potato Point.

Submission 16

Eurobodalla Shire Council Submission Letter attached.

Submission 17

Eurobodalla Greens Submission Letter attached.

Submission 18

No more clearing of bushland @ Potato Point Our risk of fire is low as shown in Kevin Tolhurst's report. And there is an endangered ecological community and very importantly endangered fauna which needs to be protected

Submission 19

I do not support any further clearing of the National Park @ Potato Point on the basis of the reports released

Submission 20

I do not support the community associations demand for further clearing of bushland @ Potato Point because it is evident in the reports it would be a mistake environmentally and we could put ourselves at a greater risk of fire. leave Potato Point as it is.

Submission 21

I do not support any further clearing of the National Park @ Potato Point on the basis of the reports released

Submission 22

I do not want any more work to be done clearing National Park.

Submission 23

with the findings of endangered species and an endangered ecological community in the environmental report along with Dr Kevin Tolhurst's fire risk report showing we are low fire risk and further clearing could put the village at greater risk I DO NOT WANT ANY MORE BUSHLAND CLEARED IN THE NATIONAL PARK

Submission 24

With endangered species and an endangered ecological community in this area it would be an environmental disaster to do any more work in the National Park and Dr Kevin Tolhurst has said in his report we are low fire risk, so NO MORE WORK TO BE CARRIED OUT

Submission 25

No more Clearing of the National Park @ Potato Point, as Dr Kevin Tolhurst's report shows the firebreak being demanded would be a mistake as we are low fire risk. we also have to seriously consider the endangered fauna and ecological community found in the environmental study.

Submission 26

No more work to be done in National Park @ Potato Point. The existing fire break is adequate as reported by Dr Kevin Tolhurst. We also have the endangered species and endangered ecological community to protect.

Submission 27

NO MORE CLEARING IN THE NATIONAL PARK AT POTATO POINT. Dr Kevin Tolhurst has given us enough evidence to show we are not at high risk of fire and we have endangered fauna and an endangered ecological community to protect from further clearing.

Submission 28

No more work to be done. Potato Point is low risk as shown in Dr Kevin Tolhurst's fire risk report.

Submission 29

I do not want any more clearing of the National Park @ Potato Point. This area is very special with endangered species and an endangered ecological community worth preserving. As Kevin Tolhurst has said the village is low risk, his report is what we should be listening to.

Submission 30

No More Clearing of National Park at Potato Point There are endangered fauna and an endangered ecological community worth looking after in the National Park. The fire report as presented by Dr Kevin Tolhurst one of Australia's leading experts in fire risk is who we should be guided by, not a community association who has no expertise in this area .

Submission 31

It is difficult to decide between what is essentially incomplete options. I feel option 2 is a good start, but want an accompanying plan of long term action.

I was of the understanding we were to get a comprehensive fire protection strategy.

However offered to us is a couple of clearing options, with no maintenance schedule nor accountabilities.

So we get something partially acceptable and start all over again?
In a way a little disappointing after all the time, money and effort undertaken.

Submission 32

Department of Primary Industries Submission Letter attached.

Submission 33

Tuross Lakes Preservation Group Submission Letter attached.



Potato Point Community Association

27 May 2014

Mr Tim Shepherd
Regional Manager Far South Coast
National Parks and Wildlife Service,
Office of Environment and Heritage
PO Box 656,
Merimbula NSW 2548

Dear Tim,

Thank you for the extensive work your teams have undertaken in the preparation of the three reports and for offering the community an opportunity to comment.

The Community Association has reviewed the reports in considerable detail. We have also engaged highly qualified external advisers to provide second and third opinions on the situation and assess some of the key issues more closely.

The attached summary assessment recognizes the considerable useful and detailed information provided to us, but we believe that there are many inconsistencies and some data which seems flawed or misleading. Our current conclusion is that the options proposed by the NPWS for restoration of the firebreak at Potato Point will not provide adequate fire protection for the residents and property owners of this village.

We do, however, believe that there is a positive way forward and this is outlined in the conclusions of our assessment.

Please note that some of the high-level independent research commissioned by the Association is not yet complete. We believe that this material will be of considerable interest to all those involved. Once this additional analysis becomes available we will be happy to share it with the NPWS. At that stage we suggest that a small delegation from the Association meet with relevant NPWS personnel to discuss and agree an appropriate way forward. Once such a plan is agreed we suggest a joint briefing of the community on the agreed plan's implementation.

Thank you again for all the information you have provided and for the hard work that has been undertaken.

Yours sincerely,

Dr Ross Babbage AM for
Bill Leakey
President Potato Point Community Committee

Potato Point Community Association
c/- 15 Riverview St
Potato Point NSW 2545

**POTATO POINT COMMUNITY ASSOCIATION
Firebreak Restoration - Comments on Draft
NPWS Planning Documentation**

Introduction

On Thursday 24 April, 2014, the National Parks and Wildlife Service (NPWS) made available three major studies that examine various aspects of planning for the restoration of the firebreak at Potato Point. They are:

- The Review of Environmental Factors
- The Species Impact Statement, and
- The Potato Point Bushfire Risk Assessment

The Community Association wishes, from the outset, to thank the NPWS and its consultants, for the very extensive research they have undertaken and the 401 pages of written reporting that has been prepared. This has clearly required substantial effort, considerable time and a large amount of taxpayer money.

This document summarises the results of the reviews conducted on the above NPWS reports by the Committee of the Potato Point Community Association and its expert advisors. The primary sections of this report are, as follows:

- Executive Summary
- Methodology
- Modelling
- Key Lessons from the 1985 Fire
- Fire Risk Judgements (Prepared by John Sanders and Neil Crawley)
- Species Issues
- Key Conclusions from the Royal Commissions and Public Inquiries into the Management of Major Bushfires
- The Legal Liability of the NPWS and its Personnel
- The Proposed Way Forward
- Conclusions

Executive Summary

The draft planning documentation prepared by, or for, the NPWS is extensive but flawed on several dimensions. Some of the most notable problems are, as follows:

Methodology

The three reports released by the NPWS define a pre-determined outcome from the outset and then concentrate on selectively analysing relevant factors so as to justify that outcome. In consequence, the documentation fails to define and analyse dispassionately a range of options that test potential benefits won by trading-off particular variables.

Other serious methodological weaknesses include the documentation's:

- Failure to clearly define the objective of the process.
- Failure to properly research and then describe accurately the full range of relevant factors, including terrain features, flora and fauna, weather patterns in high-risk seasons, human and infrastructure vulnerabilities and the history of local fires, prior to any consideration of options.
- Failure to take account of several serious issues raised repeatedly in community meetings (such as the need to protect the village's southern flank) which relevant NPWS staff indicated would be incorporated into the firebreak plan and which are essential for a satisfactory outcome.
- Failure to define and explore potential 'win-win' options.
- Failure to provide rigorous and cogent reasons why Option 1 will provide effective firebreak protection to the village and why it should be preferred.

Modelling

Many of the inputs and algorithms in Dr Tolhurst's model are unclear and we question many of the assumptions, particularly on the locations of ignitions, and the assumptions about the timing, direction and strength of wind changes. It appears that Dr Tolhurst's model is more about the probability of impact rather than the consequences of direct impact under "worst possible" conditions.

Nevertheless, even Dr Tolhurst concludes that in the event of a major fire, the probability of individual houses being lost at Potato Point is up to 50%.

Key Lessons from the 1985 Fire

Should Potato Point be confronted by a similar fire to that in 1985 residents would not have the benefit of a ~500 metre grassland firebreak and the full force of the crown fire could reach within 5 metres of houses. At the same time a heavy ember attack could be anticipated on a more-tightly packed urban environment that is carrying far higher fuel loads.

A re-run of the 1985 fire, or a fire of even greater size and intensity, would overwhelm current defences and probably lead to the destruction of many houses and potentially the loss of lives.

Fire Risk Judgements

An Asset Protection Zone (APZ) of mown grass for 75 metres and a Strategic Fire Advantage Zone (SFAZ) with all undergrowth and 95% of trees removed for a further 75 metres would be a more appropriate overall recommendation than that in Dr Tolhurst's report.

Species Issues

No threatened flora was recorded in the area.

The only fauna type that was detected in the study area that is listed as being endangered is the Striated Fieldwren. A primary reason why the Striated Fieldwren is endangered is that the tussocky grassland and coastal heathlands on which it thrives have been degraded or overrun by trees, shrubbery and other species. An important conclusion is that in order to improve the prospects for the only endangered fauna detected in the study area, there is a need to markedly expand and protect the areas of tussocky grassland and coastal heathlands.

Key Conclusions from the Royal Commissions and Public Inquiries

“There is one fundamental policy of fire prevention and of protection against fire. There is only one basis upon which that policy can safely rest, namely, the full recognition by each person or department who has dominion over the right to enter the forests of the paramount duty to safeguard the property and the rights of others. No person or department can be allowed to use the forest in such a way as to create a state of danger to others.”¹

“You own the fuel – you own the fire!”²

The Legal Liability of the NPWS and its Personnel

The Rural Fires Act 1997 (NSW) imposes a duty on public authorities to take steps to prevent bush fires and to minimise the danger of the spread of a bush fire on or from any land vested under its control or management, as well as land on which the authority is charged for maintenance.

The Proposed Way Forward

Due to the inaccuracies in the basic assumptions underpinning the firebreak restoration options suggested by the NPWS and the serious omissions from the planning documents, the Community Association will not support any of the proposed options unless substantial modifications are made.

¹ Judge Stretton quoted in Phil Cheney *The Green Inferno* (Presentation to the Stretton Group Melbourne, November 2004).

² Phil Cheney, *The Green Inferno* (Presentation to the Stretton Group Melbourne, November 2004).

Nevertheless, having gathered considerable data on the surrounds of the village and met the formal legislative requirements of the process, the foundations have been laid to jointly assess and agree all elements of a practical plan to restore effective fire protection to Potato Point.

An appropriate approach would be to consider a number of options that would be composed of the following six elements. The starting point should be:

1. An Asset Protection Zone (APZ) of mown grass with a width of 75 metres from the back fences of the houses on the west and south of the village.
2. A Strategic Fire Advantage Zone (SFAZ) of a further 75 metres width to the west and south of the village comprising modified forest, with all undergrowth and 95% of trees removed. This SFAZ would also surround the RFA Fire Station.
3. A fuel reduction zone extending a minimum of a further 350 metres to the west, northwest and south of the village in which a program of three-yearly controlled burns reduces fuel loads. Within this zone the intent would be to protect most, if not all, significant trees, including the mature Black She-oaks, on which the Glossy Black Cockatoos feed.
4. Within, or potentially encroaching on the areas 2 and 3 above, a wide area to the west and south of the village should be revegetated with tussocky grass to provide a special reserve for the only endangered species of fauna in the area, the Striated Fieldwren.
5. A detailed maintenance schedule needs to be developed.
6. A program to encourage responsible maintenance of properties within Potato Point so as to minimise dry fuel loads close to houses, and the promotion of other protective measures.

There may be scope for considering further trade-offs between the first four elements of this approach.

Should the leadership of the NPWS and the Department of Environment and Heritage agree this approach, the Community Association is prepared to nominate representatives to participate in a joint working party with a view to deriving a satisfactory outcome and resolving all outstanding issues. The goal would be to agree a satisfactory plan for restoration of effective fire protection to the village and then to jointly present the proposed way ahead to the community.

Methodology

The methodology that has been employed by the NPWS in assessing relevant factors and then designing and developing a preferred option for restoration of the Potato Point firebreak has serious flaws.

When considering optimal policy options for government action, the almost universal approach at both State and Federal levels is to follow the logical sequence, as follows:

1. Clearly define the objective.
2. Research the facts on the ground and the full range of factors that might affect judgements in pursuit of the defined objective.
3. Design a range of options that weigh the key variables in different ways so as to test potential trade-offs.
4. Assess dispassionately each of the defined options for their strengths and weaknesses.
5. Define 2-4 options with different characteristics (usually selected from the options above or hybrid versions of them) for community consideration.
6. Submit the final options, together with community feedback to the Minister for decision.

However, the planning documentation on the Potato Point firebreak that has been distributed for comment has employed a quite different methodology, as follows.

1. Acknowledgement that the Minister for Environment and Heritage has directed, through the Director-General, that relevant studies be undertaken on the potential impacts of works that may be undertaken to strengthen the fire protection of Potato Point.
2. Three closely-related, very conservative options are described from the outset and one option (Option 1) is designated as being preferred.
3. Three major reports are then prepared on the potential impacts and effectiveness of Option 1.
4. A limited process of community consultation is launched, largely on the planned implementation of Option 1, with the final decision on the nature and scope of works to be taken by the Department of Environment and Heritage.

In consequence of this selected methodology, the documentation submitted for public review:

- Fails to clearly define the objective of the process. Dr Tolhurst notes this serious weakness in his report:

‘In order to compare the options, a set of objectives with specific consequences should be prepared. I am not aware of this having been done for Potato Point. Without a set of fundamental objectives that deal with some stated outcomes/consequences, it

will be impossible to undertake a trade-off process to select the best option.³

- Fails to properly research and then describe clearly the full range of relevant factors, including terrain features, flora and fauna, weather patterns in high-risk seasons, human and infrastructure vulnerabilities and the history of local fires, prior to any consideration of options.
- Fails to take account of several serious issues raised repeatedly in community meetings which relevant NPWS staff indicated would be incorporated into the firebreak plan and which are essential for a satisfactory outcome.
- Fails to define and analyse dispassionately a range of options that test potential benefits won by trading-off particular variables.
- Fails to define and explore potential 'win-win' options.
- Fails to seek community feedback on a diverse range of options.
- Fails to provide rigorous and cogent reasons why Option 1 will provide effective firebreak protection to the village and why it should be preferred.
- Fails to propose putting a short list of preferred options to the Minister for decision.

In addition to the above, the program methodology fails to address in any serious or rigorous manner several of the issues that the community has repeatedly stressed will be central to the achievement of an acceptable outcome. Most notable in this respect is the absence of rigorous analysis of:

- The protective value of the very limited areas of modified forest that were 'treated' in Phase 1.
- The firebreak value of the type of limited forest modification that is proposed for extension in Phase 2.
- The design of protective measures on the southern flank of the village, despite the fact that all professional fire assessments of Potato Point highlight the serious fire risk from that direction.
- The design, development and description for community consideration of a comprehensive plan and schedule for fuel load reduction in the broader approaches to the village, including in several critical zones beyond the formal study area.
- The failure to design, develop and describe for community consideration a credible plan for firebreak maintenance.

In short, the draft planning documentation was prepared with a predetermined outcome. It fails to assess all key factors, fails to incorporate key community concerns, fails to define and assess a range of credible options and fails to incorporate several important aspects that would be central features of any effective plan of firebreak protection.

³ Dr Kevin Tolhurst, Potato Point Bushfire Risk Assessment (April 2014), p.21.

Modelling

Dr Tolhurst was given a brief by the NPWS to assess the fire risk at Potato Point. This brief described worst case weather conditions as follows:

- Temperature 40 degrees C
- Relative Humidity 10%
- Wind West-to-northwest at 50 to 60 km/hr with a southerly change for 2 hours, with wind gusting to 30 to 50 km/h.

If these conditions were combined with a Keetch Byram Drought Index that exceeds 100 (typical of prolonged droughts that have occurred on the south coast) and a period without rain that results in a drought factor of 10, these conditions would represent a McArthur Forest Fire Danger index in excess of 100.

We note that significantly higher temperatures and wind speeds have been recorded on numerous occasions nearby. Nevertheless for the purposes of this commentary, we accept that this index approximates “worst possible” fire weather conditions. However we seriously question the assumptions made by Dr Tolhurst concerning ignition locations and the timing and direction of wind changes that appear not to expose Potato Point to the maximum fire behaviour. Small changes to the assumed ignition points and direction of wind result in far worse fire conditions than those Dr Tolhurst acknowledges.

Even more concerning are the erroneous assumptions in Dr Tolhurst’s modelling concerning the characteristics of southerly busters. These often occur after hot days during which the south coast is buffeted by strong west-north-west winds. This stretch of coast is renowned for southerly busters that exceed 100 km/hr. If these details were included in Dr Tolhurst’s model it would make a marked difference to the fire rating produced in his report. The rating would be at least at the high end of “high” and probably “extreme”. This would be in accordance with Potato Point’s fire rating of “high” as recorded in the Eurobodalla Bush Fire Management Committee’s Bush Fire Management Plan where Potato Point is rated “high”⁴.

In addition, it is unclear how the fuel types and fuel load distributions are used in Dr Tolhurst’s modelling. The modelled Fine Fuel Loads are based on “Watson et al, 2012, Bushfire fuels in NSW forests and grassy woodlands” which delineates the area immediately to the west of Potato Point Village as “Low”.⁵ However Dr Tolhurst, states, “Fuels within the 500m to 1km of township of Potato Point are not mapped correctly...The overall fine fuel hazard ratings... are Very High”⁶. He acknowledges in his Conclusion 3⁷ that the Fuel Load inaccuracies are largely due to the recent revegetation, yet his

⁴ Eurobodalla Bush Fire Management Committee, *Bush Fire Management Plan* (7 September 2011) p.29.

⁵ Dr Kevin Tolhurst *Potato Point Bushfire Risk Assessment* (April 2014), p.19.

⁶ Tolhurst, p.18.

⁷ Tolhurst, p.20.

modelling, apparently only uses "moderate to high" fuel loads. This contributes yet another inaccurate variable to the modelling.

Another rather remarkable statement by Dr Tolhurst is his assertion that as he has no easy access to detailed information concerning the 1985 fire that seriously threatened Potato Point, he decides unilaterally not to take this major event into account in his modelling. This is a very serious omission. The 1985 fire was extremely serious, as can be attested to by the accounts of many Potato Point residents, local firefighting controllers and the summary account that follows below.

We also note that some of the hazard reduction fires are cited incorrectly on the map used by Dr Tolhurst (Figure 4 in his report).⁸ For example, the 2010 fire south-west of Potato Point was not very successful in reducing fuel loads but this is not indicated in Dr Tolhurst's report. A reader without detailed local knowledge would conclude that the designated area of this fire had its fuel loads markedly reduced by this exercise, but that was not the case.

When the many false assumptions and incorrect facts in Dr Tolhurst's report are corrected, independent modelling produces quite different and more worrying conclusions.

Key Lessons from the 1985 Fire⁹

The bushfire on 2 March 1985, that Dr Tolhurst's paper ignores, posed a very serious threat to Potato Point.

The ignition point for this fire was the timber mill that was located on the south side of Bodalla Road some 8 km from Potato Point. 2 March 1985 was a very hot day (maximum temperature 33.5 degrees C) with exceptionally strong westerly winds.

Because of the heat, many Potato Point residents were on the beach when they noticed the first clouds of smoke. In the surf a perfect two-metre swell was running but the strong winds made board riding difficult and wind-blown sand contributed to the unpleasant conditions.

The fire quickly spread from the timber mill into the surrounding bush and thence into the crowns of the trees. It moved very rapidly across the hills and towards the village.

The heat was intense as residents scrambled to seek shelter for their families. Three or four residents connected hoses to taps at the rear of the houses along the Western fringe of the village at Deraquin Street. However, as water was played on the paling fences and the grassland beyond it evaporated immediately

⁸ Tolhurst, p.9.

⁹ This section is a summary of the recollections of local longtime residents of Potato Point: Greg Underwood, David Boxsell & Rob Pollock, all of whom were engaged in defending Potato Point from this fire.



The noise of the approaching fire was deafening. It was impossible for firefighters to hear one another yelling, even though those standing to confront the flames mostly stood only two-to-three metres apart.



Once the crown fire reached the edge of the grassland firebreak it lost much of its momentum. While it spread across the grass, the defenders were able to further slow the fire's progress.

While several people battled the wide firefront in the grassland firebreak, the winds carried embers into the village that ignited numerous spot fires in and around houses.



Some residents who fled the fire-front moved to the trig point on the reserve at the end of Potato Point immediately above the cliff tops. For several minutes these people could not see through the dense smoke and several experienced serious breathing difficulties. Most of the women and children in the village were terrified. A small team of defenders struggled to control the fire on the village fringes and the numerous spot fires that flared amongst the houses.

All vegetation surrounding the village burned, including the full width of the ~500 metre grassland firebreak, the patches of swamp oaks adjacent to the creek and even the grass on the sand dunes at Potato Point beach.



The area to the south of Bodalla Road immediately after the 1985 fire.



The same area as shown above, looking south from the Bodalla Road in 2014.

Although the village was completely cut off for several hours, the first rural fire service vehicles to come through after the fire suffered melted external trims and spark invasion through ventilation inlets.

Following the fire, local residents euthanized scores of native animals that were severely injured from burned scalps and feet. Many of these animals had sought shelter in the creek.

Should Potato Point be confronted by a similar fire to that in 1985 residents would not have the benefit of a ~500 metre grassland firebreak and the full force of the crown fire could reach within 5 metres of houses. At the same time a heavy ember attack could be anticipated on a more-tightly packed urban environment that is carrying far higher fuel loads.

A re-run of the 1985 fire, or a fire of even greater size and intensity, would certainly overwhelm current defences and probably lead to the destruction of many houses and potentially the loss of lives.

Fire Risk Judgements

This section on Fire Risk Judgements (printed in italics) was drafted by two of the South Coast's most experienced fire-fighters, John Sanders and Neil Crawley.¹⁰

The bushfire that impacted Potato Point in March 1985 burnt under a Fire Danger Rating (FDR) of 55%.

This index is about half the potential worst possible FDR of 100 likely to occur at Potato Point. If fires occur under these conditions we would expect the fire behaviour, difficulty of suppression and damage to be similar to that of the fires that devastated Hobart in 1967, coastal areas of Victoria in 1983 and Canberra in 2003.

Under these conditions firefighters have no capacity to stop the fire even were the most sophisticated equipment to be available. In these circumstances firefighters will need to focus their efforts on protecting houses and other key assets.

Although temperatures on the coast are often modified by the sea breeze, high temperatures do occur and temperatures in excess of 44 degrees C have been recorded at least 3 times in the last 10 years (10/01/03; 1/01/06; 18/01/13). On New Year's Eve 2006, the temperature recorded at Potato

¹⁰ John Sanders has extensive experience as a forester and a fire fighter. Amongst his appointments have been: Field Officer in the Narooma Forestry District, NSW Forestry Commission, Operations Officer, Eurobodalla Rural Fire Service, Air (Fire) Attack Supervisor in various locations, including the ACT and Snowy Mountains in 2003 and Investigating Officer into the Black Saturday Fires. He holds a B.Sc (Forestry) from ANU.

Neil Crawley's experience has primarily been that of fire-ground Rural Fire Service Incident Controller, Task Force Commander, Strike Team Commander, Operational Sector Commander or, as occurred during the Victoria Black Saturday fires, Divisional Commander for the Upper Yarra Valley.

Point reached 46 degrees C. A notable consequence was that a large number of garden plants in Potato Point died from the heat.

Given the likely worsening in all of the parameters that affect bush fire behaviour as a function of global warming, it is just a matter of time before a bushfire with similar behavioural characteristics to those described above will impact Potato Point. Hence, protective measures need to be designed to cope with those conditions or risk being overwhelmed.

Practical Considerations

In the event of a bushfire starting somewhere west of Potato Point under adverse conditions, it is highly unlikely that any assistance would be forthcoming from other dedicated Fire Services at Bodalla, Dalmeny, Narooma or Moruya. Nor would it be likely that significant assistance would be provided by the land management agencies with responsibilities in the area – State Forests or NPWS, even with the best will in the world.

Under high intensity conditions trees will burn or be blown down and conductors and power poles will also fall. In consequence, vehicular traffic along the single access road to Potato Point - Bodalla Road - is likely to be blocked at an early stage and power supplies will fail. The water supply can be expected to suffer a serious reduction in pressure, undermining the effectiveness of most residential firefighting activities. The only assistance likely to be provided to the home owners of Potato Point will be that provided by local Rural Fire Brigade personnel and residents already in the village. There is unlikely to be any safe option for landward evacuation.

Given the limited resources likely to be present in Potato Point as the fire-front approaches, the most sensible role for any Rural Fire Brigade personnel would be to assist residents to protect their homes from ember attack. It would be important for fire-fighting personnel not to be distracted by the high levels of radiant heat and the flames on the village perimeter.

In this type of situation there is always tremendous pressure on fire fighters to perform. In the event that there is loss of life or homes destroyed, the stresses on fire fighters will be multiplied. In order to make these pressures manageable and markedly reduce the dilemmas facing firefighting teams, the approaches to the village need to be modified by removing or markedly reducing vegetation and other fuels out to a depth of at least 150 metres.

Kevin Tolhurst correctly identifies ember attacks to be one of the greatest threats to Potato Point. However, he states that the ember threat would be greatly curtailed by the Casuarinas (swamp oaks) and similar native vegetation that have regrown in sections of the approaches to the village.

The type of threat that could be posed by ember attacks in the approaches to Potato Point on a bad day is described in the report at Attachment A. This article includes a photograph taken during the 1983 Ash Wednesday Bush Fires showing a 200 metre flame burning clear of the canopy of an unthinned 1967 radiata pine plantation on flat topography. The author states that the photographed flame was neither the largest nor the highest that was observed on that day.

Allan McArthur, one of Australia's pre-eminent bush fire researchers from the 1960s to the late 1970s concluded that pine plantation fires burned at a lesser intensity than eucalypt forests due to their higher fuel moisture content and the closed nature of the plantation preventing wind penetration. For a given set of conditions, fires in a eucalypt forest interspersed with Casuarina and other native trees would present a substantially worse threat than fires in pine plantations.

A key issue with major flares is that whilst organic material within the centre of the flare is consumed, material on the periphery will be carbonised and most likely will be glowing hot. As the flare subsides this material rains down and frequently ignites spot fires.

Given that the pine plantation that burned in the Ash Wednesday fires was 16 years old, it is almost certain that a fire in a mature eucalypt forest accompanied by stretches of Casuarina would be of a much higher intensity and also faster moving.

This situation raises several critical questions for the protection of Potato Point that Dr Tolhurst fails to address squarely.

First, while casuarinas may exert a moderating effect in the event of a modest fire, in the event of a major fire in the sort of extreme conditions that Potato Point experiences periodically, Casuarinas, eucalypts and other native vegetation will burn strongly and contribute substantial fuel to the fire right up to the village boundaries. In these conditions there will be embers above the canopy of retained trees that will reach the village, and there will also be embers that will run along the ground. Ground embers get abraded by their impact with the ground but might be expected to reach the village in many conditions.

Because Dr Tolhurst does not address or model the types of extreme conditions that have confronted Potato Point in the past, and are certain to do so again, he fails to draw the obvious conclusion: that the Casuarina and other vegetation on the immediate approaches to the village need to be removed or markedly reduced for a distance of at least 150 metres if the firebreak is to provide reasonable protection to the village.

Second, Dr Tolhurst fails to recognise the key firefighting role of Jemison's Track, to the west of the village. If the primary vegetation were to be cleared for twenty metres each side of this track, there would be potential for it to be used as a safe baseline for back-burning and other

fire protection measures in a range of situations. However, the importance of this element of the village's fire defences is barely noted and no recommendation is made for the necessary protective clearing.

Third, Dr Tolhurst fails to adequately address the special difficulties entailed in trying to protect the type of closely-packed residential settlement at Potato Point. He does recognise that because the building plots are small, they create an obvious danger of fire spreading from one house to the next.¹¹ Moreover, many houses in the village do not meet current fire standards and are surrounded by bushes, trees, wooden fences and sometimes wooden decks. Trees and bushes on Council land, which can be very close to the houses, add further risk.

Unfortunately, the practicalities of getting all residents, holiday home owners and the Council to reduce and prune trees and bushes on their respective properties is a major, if not impossible, challenge. Some residents refuse to cooperate, some quote Council restrictions and some property owners seldom visit the village.

Moreover, this situation is unlikely to improve markedly any time soon. Vacant building blocks will be filled in, trees will mature and the Council land that was once totally cleared will continue to generate new trees and bushes. Under current regulations Council even restricts the removal of dead trees on Council land.

The bottom line is that the fuel loads within the village are likely to remain high, despite the best intentions of most residents. Dr Tolhurst notably fails to build this practical reality into his recommendations for protection of the village. This situation is analogous to addressing the firebreak requirements of a petroleum storage farm in the same way that one considers the firebreak requirements of an earth-bermed concrete bunker. The petroleum storage farm obviously needs far wider and more thorough firebreak preparations. However, while Dr Tolhurst recognises the special vulnerability of the closely-packed urban environment in this village he fails to apply the consequences of those facts to the design parameters of the firebreak. He effectively recommends the equivalent of a concrete bunker firebreak for a petroleum fuel farm. The result is deeply flawed analysis and grossly inadequate recommendations.

In another part of his report Dr Tolhurst also argues that the presence of water bodies in the vicinity of Potato Point justifies a downgrading of the bushfire threat to Potato Point.¹² Whilst the lakes 4-5 kilometres to the north and south of Potato Point may contain water after a prolonged drought, the much smaller and shallower lagoons that are close to Potato Point frequently dry up almost entirely. This is the normal state in most summers and, hence, they would present little obstruction to a high intensity bushfire.

¹¹ Tolhurst, p.15.

¹² Tolhurst, p.9.

Indeed, during the 1985 bushfire, attempts to steer the fire into paperbark swamps proved futile. The fire danced across these areas as though they didn't exist, whilst earth moving plant was getting bogged.

Future Weather Conditions

The latest IPCC report warns of future increases in global temperatures. The most recent CSIRO reports are of even greater concern.

"Expect more extreme weather. There will be longer periods of drought. Longer periods of high temperatures and increased wind speeds."¹³

In other words, the CSIRO is forecasting a significant increase in the fire risks to Potato Point. Again this forecast is not factored into Dr Tolhurst's report and this further undermines his recommendations.

Fire Risk Summary

In brief, there are serious flaws in Dr Tolhurst's assumptions and in his overall assessment of the firebreak needs of Potato Point.

The modified forest areas in Phase 1 are described in the NPWS-sponsored documentation as being 'park-like'. This term was first introduced into the discussion by the Community Association in an attempt to simply describe the type of parkland area adjacent to the nearby Troll Bridge and in the 30 metres to the west of the village in the first 120 metres south of Bodalla Road. Those areas comprise grassland with a few scattered trees. The NPWS has since misused the 'park-like' term to describe something completely different – a modified forest area in which tree coverage is continuous and tree trunks are very close.

The Phase 1 development of areas of 'modified forest' does not appear to have involved the removal of 80% of the overstorey. In many areas the trees remain very close and the tree crowns interlink. Areas treated in this way will not provide a serious barrier to a major fire. Nor will these areas be simple or easy to maintain because of the practical difficulties of manoeuvring machinery between trees that are so closely spaced.

An Asset Protection Zone (APZ) of 75 metres (of mown grassland) with a Strategic Fire Advantage Zone (SFAZ) of a further 75 metres (with 95% removal of overstorey) would be a more appropriate overall recommendation than that in Dr Tolhurst's report.

¹³ Australia. CSIRO and Bureau of Meteorology. *State of the Climate 2014* [electronic resource]. <http://www.csiro.au/Outcomes/Climate/Understanding/State-of-the-Climates-2014.aspx> (Accessed 21 May 2014).

Species Issues

The discussion of flora and fauna in the approaches to Potato Point, while lengthy, is also undermined by several flaws.

First, the bulk of the documentation ignores the fact that all of the study area and substantial areas beyond comprised grassland grazing paddocks for over 100 years. Indeed, there is evidence that even before white settlement this stretch of coast was frequently burned by the local Aboriginal communities. It is only in the last 30 years that regrowth forest has been permitted to dominate the terrain.



Potato Point and its Surrounds in 1966



Potato Point and its Surrounds in 2004

Despite this, much of the discussion in both the Species Impact Statement and the Review of Environmental Factors invites the reader to take seriously the proposition that this limited area of regrowth, that abuts vast areas of old-growth forest, could somehow be critical to the future of several flora and fauna species. This defies common sense and is reinforced by the very low numbers of significant species that the researchers detected in the area.

Second, and further to the above, an important but largely ignored conclusion in the studies is that no threatened flora was recorded in the area.

Third, in several parts of both the Review of Environmental Factors and the Species Impact Statement considerable emphasis is placed on the potential for any clearing or increased grassland areas to result in a significant rise in weed intrusion. However, this assertion is directly contradicted by both direct observation of the area and in the following remarks the Species Impact Statement:

'There is an almost total lack of weeds in the SOFF EEC within the study area and a considerable number of native sensitive groundcover species are present indicating only minimal disturbance. Species composition matches closely to published descriptions for SOFF EEC'¹⁴

¹⁴ *Species Impact Statement – Potato Point Fire Buffer Construction Works* (Envirokey for the NSW Office of Environment and Heritage, April 2014) p.163.

Fourth, most species of relevant fauna were detected well beyond the study area. Indeed, the bulk of sightings were more than 1km distant. Only six animals of significance were detected within the study area and only three were detected in the areas proposed for Phase 2 works. Most of the sightings of animals of interest concerned Glossy Black Cockatoos that feed extensively on the mature Black She-oaks and other species right across the region during the summer months – including in the backyards of many Potato Point residents.

The only other animal of interest that was reported more than once in the study area was the Square-tailed Kite. This bird was detected on two occasions.

Fifth, the NPWS reports devote considerable attention to a single sighting of a White-footed Dunnart. However, what is not emphasised in these documents is that relatively large populations of White-footed Dunnarts exist to both the north and south along this stretch of coast as well as in several other parts of Australia. Moreover, these animals are not listed as an endangered ecological community or as a critically endangered ecological community.

Sixth, an important conclusion that the NPWS documentation fails to highlight is that the only fauna type that was detected in the study area that is listed as being endangered is the Striated Fieldwren. A primary reason why the Striated Fieldwren is endangered is that the tussocky grassland and coastal heathland on which it thrives have been seriously degraded or overrun by trees, shrubbery and other species. An important conclusion that the NPWS documentation fails to highlight is that in order to improve the prospects for the only endangered fauna detected in the study area, it is important to markedly expand and protect the areas of tussocky grassland and coastal heathland.

Seventh, there are serious inconsistencies in the NPWS documentation concerning the sensitivity and importance of so-called ‘creeks’ and ‘wetlands’ in the study area. Most notably, local residents know that the drainage ditch that is called a ‘creek’ in these reports is frequently completely dry. Only after significant and prolonged rain does this ditch carry a continuous flow of water. Even then, it rarely runs for more than a few days. It is important to note that in the critical hot summer months this ditch is frequently bone dry.

Similarly, the so-called wetland is really just low grassland that in recent years has been overtaken by regrowth forest. This area can be mildly damp following heavy rain but for most of the year it is dry. Indeed, in some hot summers it is tinder dry and very dangerous. Importantly, this high fuel load area fails to meet the definition of ‘Coastal Wetlands’ as described by the NSW Department of Primary Industries in: www.dpi.nsw.gov.au/fisheries/habitat/aquatic-habitats/wetland/coastal-wetlands In consequence, there is no cogent reason why fuel load reduction measures cannot be undertaken in this wide strip of regrowth vegetation.

A related issue is the obvious inconsistency between the reporting of the culvert and adjacent dam on the Jemison's Point Track and the untouchable characterisation of the low ground immediately east of the culvert. For instance, in the Species Impact Statement we find the following:

'Hydrology on site does not appear to have been significantly altered. A dam is present upstream and a culvert crossing is installed on the Jemison's Point Road, however these are unlikely to be impacting significantly on local hydrology.'¹⁵

So here we are told that it is perfectly acceptable to have a dam on the 'creek' and also for the NPWS to cut a road through the low 'wetland' to a modern culvert across the 'creek'. Indeed, despite the areas of bare and semi-bare ground thus caused, the impact on the local hydrology and the general environment is unlikely to impact significantly.

However, when it comes to the question of thinning the regrowth forest to the immediate east of this road and reducing the fuel loads close to the back fences of local houses, the stated position of the NPWS is that absolutely no forest modification can be contemplated. This is not only inconsistent, it is illogical and it protects a largely untouched fire corridor from the tall Eucalypt forests a kilometre and more to the west of Potato Point directly to the houses of residents. This is dangerous and unacceptable.



Part of the Regrowth Forest that has been deemed untouchable close to the back fences of houses near the southwest corner of the village.

¹⁵ Species Impact Statement 2014, p.165

Key Conclusions from the Royal Commissions and Public Inquiries into the Management of Major Bushfires

The following are excerpts from a number of public reports; the Canberra Coronial inquiry, the Victorian Royal Commission, the Mcleod Operational Review of ACT Bushfires, and the House of Representatives “A Nation Charred” 2003 Report.

Canberra Coronial Enquiry

“You can answer to the Coroner if people die”.¹⁶

“The fact that bushfire burnt into the urban area under extreme conditions did not reflect a failure of fuel management on the urban interface but rather a failure of fuel management in the forest areas.”¹⁷

“There needs to be a greater recognition within the public land management agencies of the importance of fire management. Senior managers within the public land agencies must have appropriate experience in fire management and must have adequate resources and be accountable for the effective implementation of fire management programs. They need to be able to provide leadership in and develop a culture of active public land fire management.”¹⁸

“Public land managers must have the authority to implement prescribed burning operations under pre-agreed standard burning prescriptions if they are to be accountable for implementation of identified fire management works under approved fire management or operational plans.”¹⁹

“When investigations are conducted by the Commissioner for the Environment into management of forested land, there needs to be a formal consideration of the need to balance fire management and environmental outcomes.”²⁰

¹⁶ AFP Commander Mandy Newton quoted in *The Canberra Firestorm*, Inquests and Inquiry into 4 deaths and 4 fires between 8th and 18th January 2003 (Vol 11, published December 2006) Coroner Maria Doogan, p. 122.

¹⁷ Dr Phil Cheney, expert witness, *The Canberra Firestorm* (Vol 1) p. 65..

¹⁸ Mr Tony Bartlett Director of ACT Forests at the time of the 2003 Canberra Bush Fires, Coroner Doogan adopted his suggestions contained in June 25th submission by his counsel Mr John Watts *Canberra Firestorm* (Vol 11). p. 214.

¹⁹ This issue is discussed at length in paras 23-29 of Mr Bartlett’s March 2004 statement on fuel management, and also on pages 18-19 of his interview with the AFP of 11 February 2004 and referred to in the June 25th 2014 submission by his Counsel Mr John Watts contained in the CD accompanying *The Canberra Firestorm* (Vol 11)..

²⁰ These issues were also discussed in paras 34 and 42 of Mr Bartlett’s statement of March 2004 and referred to in the June 25th 2014 submission by his Counsel Mr John Watts contained in the CD accompanying *The Canberra Firestorm* Vol 11..

“The purpose of the report is, then, two fold. First, the report seeks to convey the concern by local communities in fire prone areas that not enough has been done to mitigate the threat of fire. In so far as this report is critical of land management practices and fire suppression efforts, it reflects the high levels of concern that the Committee encountered through written submissions and during its program of public hearings and inspections in areas that have been badly affected by bushfires in recent years. Second, through the recommendations made in the report the Committee has sought to indicate how a national approach and policy would benefit prevention and management of future bushfire events.”²¹

“Concerns that were consistently raised in evidence from fire affected areas can be summarised as the: build-up of fuel loads on public lands; decline of fuel reduction programs on public and private lands; inadequate access into national parks; disregard and exclusion of local knowledge in land management agencies and fire suppression operations; slowness of response and lack of aggression by management responsible for fire suppression activities; mismanagement of fire suppression operations; and failure of radio-communication systems and equipment.”²²

“The Committee received a large body of evidence criticising the failure of land management practices and policies to prevent severe bushfire damage across all tenures of land. Among the factors most commonly cited as contributing to the severity of recent bushfires were: A move in attitude in fire management from practices that mitigate the threat posed by fire to suppression of fire events. High fuel loads. Inadequate buffer zones protecting assets. Inadequate access to fires.”²³

“The events of January 2003 and the preceding fire seasons need to be seen in the light of this shift. This change in emphasis is not confined just to New South Wales but can be seen across the Australian community. The Institute of Foresters of Australia (IFA) commented that: we see the community divided over fire management and the divide (especially between urban and rural communities) deepening. Familiar position-taking is occurring. On one side of the divide are some influential environmentalists and academics, supported by inner-city residents not threatened by bushfires, and not responsible for bushfire management. These people in general advocate a hands-off approach to land management, where ‘natural’ events like bushfires are allowed to run free. On the other side are rural people, fire fighters, foresters and land managers who are responsible for values threatened by bushfires. The latter tend to advocate an interventionist approach, where steps are taken to minimise risks before fires start, as well as having in place a well-equipped rapid-response fire fighting force. This divide is becoming

²¹ *A Nation Charred: Report on the Inquiry into Bushfires* p. 4.

²² *A Nation Charred: Report on the Inquiry into Bushfires* p. 11.

²³ *A Nation Charred: Report on the Inquiry into Bushfires*, p. 13.

institutionalised, and reflected in policy positions adopted by different agencies and political organisations. To add to the problem, responsibility for fire management is increasingly being taken out of the hands of land managers (who are trained to minimise threats and hazards) and placed in the hands of emergency services (people trained to respond to a disaster after it occurs).”²⁴

“The amount, type, structure and moisture content of available fuel have a significant impact on the behaviour of bushfire. A more complete discussion of the significance of fuel management in the mitigation of bushfire damage occurs in chapter 3. Much of the evidence on the inadequacy of current land management practices in providing effective mitigation of the severity of recent bushfires cited increased fuel loads in national parks as a significant, if not the primary, contributing factor. These increased fuel loads were said to be the result of a decline in the implementation of fuel reduction programs.”²⁵

“The McLeod Report stated that: In the 2002-03 season, fuel loads in smoke areas were estimated at between 35 and 40 tonnes per hectare, described by some as the maximum available fuel load ...”²⁶

“The Shoalhaven City Council (SCC) acknowledged the importance of fuel reduction on private land and had responded by establishing a working party: One of the key issues is the consideration that our tree preservation orders were too tight and too prohibitive, and that the community should be given a greater opportunity to remove vegetation from their own properties. Council is now about three weeks away from adopting a policy which would free up the ability of the local community to remove vegetation from around their properties. Once that policy is adopted, it is the council’s intention to put that on public exhibition. We would see a significant reduction in council intervention in approving vegetation removal from private properties through that new policy.”²⁷

“The Blue Mountains City Council (BMCC) stated that: ‘The tree preservation order does not apply to trees which are assessed as being a fire hazard or a threat to an asset.’²⁸

“The Deputy Chief Fire Control Officer of the Kojonup Bushfire Advisory Committee indicated the lengths to which the Council went to enforce required asset protection zones of 60 to 70 metres around buildings: at the closing date, which is 15 December, all firebreaks have to be in place. We put an aeroplane in the air on 16 December and overfly the whole district. Anybody whose breaks do not meet the standards are fined and forced to comply with firebreak rules. We have a similar operation happening in our local town where we attempt to reduce the level of fuel hazard within the town so that, should a wildfire approach,

²⁴ *A Nation Charred: Report on the Inquiry into Bushfires* p. 14.

²⁵ *A Nation Charred: Report on the Inquiry into Bushfires* p. 18..

²⁶ *A Nation Charred: Report on the Inquiry into Bushfires*, p. 19.

²⁷ *A Nation Charred: Report on the Inquiry into Bushfires*, p. 25.

²⁸ *A Nation Charred: Report on the inquiry into Bushfires*, p. 25.

we have our best chance of protecting the town and stopping fires escaping from the town.”²⁹

“The Committee received evidence that increased legislative and administrative requirements particularly in the implementation of fuel reduction burns has been responsible for the build-up of fuel on both public and private lands.”³⁰

“The Wilberforce Brigade stated that the primary reason for the lack of fuel reduction burning: is the result of a complex approval process and the plethora of environmental legislation, planning instruments, policies and plans that serve to inhibit hazard reduction by Rural Fire Brigades in NSW on public and private lands.”³¹

“The Colo Heights Rural Fire Brigade stated that: Recent problems associated with obtaining Environmental Impact Statements prior to hazard reduction activities have ... reduced the hazard reduction undertaken by rural fire brigades.”³²

“Review of Environmental Factors (REFs) requirements were identified as particularly prohibitive requirements in gaining permission to conduct fuel reduction: It gets down to the REF, when we are in the hands of the land manager. We cannot proceed until we get the REF ... All sorts of excuses can be used, such as restraints on money. REFs are extremely expensive to prepare and they have a budget to work to.”³³

“The CSIRO stated that ‘The cheapest and most ecologically sound way to [manage fuel] is by prescribed burning.’ Prescribed burning is: The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives.”³⁴

“The Committee received a wide range of views on the environmental effects of implementing regimes of prescribed burning. At a public hearing in Ballarat Dr Peter Attiwill, current Principal Fellow and Associate Professor in Botany at University of Melbourne, appearing on behalf the Institute of Public Affairs estimated the balance of academic opinion for and against prescribed burning for ecological reasons in the following proportions:

If we are talking about the management of low heath lands like those we have at Wilson’s Promontory, I think every ecologist would agree that they have to be burnt every 10 years. I think the Shea-Tolhurst group would be 90 per cent in favour and maybe 10 per cent against. When it comes to forests, again there is ideological opposition to

²⁹ *A Nation Charred: Report on the Inquiry into Bushfires*, p.25.

³⁰ *A Nation Charred: Report on the Inquiry into Bushfires*, p.42.

³¹ *A Nation Charred: Report on the Inquiry into Bushfires*, p.43.

³² *A Nation Charred: Report on the Inquiry into Bushfires*, p.43.

³³ *A Nation Charred: Report on the Inquiry into Bushfires*, p.43.

³⁴ *A Nation Charred: Report on the Inquiry into Bushfires*, p.51.

burning – even among ecologists. But I would think that they would represent – I would have to guess – about a 75 per cent view.”³⁵

“Mr Cheney of the CSIRO stated that:

There were certainly areas, burnt under the extreme conditions, which not only suffered a fire effect, but where extraordinarily strong winds moved a lot of material off the surface to the degree that the bark on certain species had been sandblasted off by the moving soil. ... In those areas, a certain amount of the seed that was in the topmost layer of the soil will disappear. Other seeds, deposited lower in the profile, will undoubtedly regenerate. It is difficult to generalise, but probably there will be strong legume regeneration through a lot of those areas. Whether the ash forests regenerate will depend a bit on whether they were carrying seed at the time and then what happens to it. In the areas west of the ACT the forest will ... conservatively ... take more than 200 years to return to anything like their original condition because many of the trees have not shot; only the largest have shot from the base. That means you will have a coppice forest ... in that area. It will be a long time before it comes back to a single-stemmed forest.”³⁶

“Dr Kevin Tolhurst, a senior lecturer in Fire Ecology at the University of Melbourne, stated:

The fire that we had this summer did not, in a lot of areas including the Big Desert and eastern Victoria, leave ... unburnt patches. The time of recovery in some of those areas is going to be enormous. Up on some of the high plains it is not too bad, but down in some of the foothill country it has been quite comprehensive in the way it has burnt those areas. What I am suggesting is that if we have more prescribed fires across the landscape, not only does it provide opportunities to suppress fires, it provides refuge for plants and animals during the fire event and provides boundaries from which you can actually help suppress fires. There have been quite a few examples over the summer of where prescribed burns were quite useful in the suppression operation.”³⁷

“Dr Tolhurst referred to a study into the effectiveness of strategic burning: The result of that work basically showed that the burning in the fuel management’s zone ones – the areas closest to private property or high value assets – was good value for money in that the fires were running into those zones and were actively helping fire suppression efforts more than would have been expected just on the basis of chance. Zone ones represent somewhere between three percent and five percent of the parks and forests, a pretty small and very localised area – up against people’s back fences, effectively. So that is good value for money. We did not address whether enough of that was being done but what was being done was effective. Similarly, in fuel management zone

³⁵ *A Nation Charred: Report on the Inquiry into Bushfires*, p.54.

³⁶ *A Nation Charred: Report on the Inquiry into Bushfires*, p.59.

³⁷ *A Nation Charred: Report on the Inquiry into Bushfires*, p.59.

twos, which are strategic corridors, it was good value for money in the sense that it was assisting in the suppression effort. Fuel management zone two might represent up to 20 percent of the estate, so that leaves us with about 80 percent of the public land. But the issue for protection is less clear there. We found that there is an even chance as to whether a fire would run into a prescribed fire across that other 80 per cent of the landscape. We were getting benefits from those fires in the landscape but only in proportion to the number that had been done.”³⁸

“What I really want to talk about is the responsibility of governments and their agencies to manage their land and thereby play a leading role in protecting the community from bushfire.

I will quote Judge Stretton, writing in the report of the Royal Commission to inquire into the 1939 bushfires:

There is one fundamental policy of fire prevention and of protection against fire. There is only one basis upon which that policy can safely rest, namely, the full recognition by each person or department who has dominion over the right to enter the forests of the paramount duty to safeguard the property and the rights of others. No person or department can be allowed to use the forest in such a way as to create a state of danger to others.

If conformity to this rule cannot be brought about, the offender must be put out of the forest, or, in the case of a public department its authority curtailed, or enlarged so that the rule may be enforced, or voluntarily observed as the case may require.

Fire needs fuel. And fuel determines how far and fast it will travel; how difficult it will be to round up and stop; and how much havoc and destruction will be wrought if the beast enters your property. So it is not just the landholder on whose property the fire starts that is responsible for the damage. All landholders affected contribute to both the spread and damage by the way they manage the fuel on their land.

You own the fuel – you own the fire!”³⁹

The Legal Liability of the NPWS and its Personnel

In view of the failure of the NPWS to act after more than a decade of repeated expressions of community concern about the failure to maintain the Potato Point firebreak, Potato Point residents commissioned formal legal advice from a major legal practice in Sydney. This high-level advice indicates the following.

The Rural Fires Act 1997 (NSW) prescribes the duties of different members of the community to prevent bush fires. Section 63 of the Act imposes a duty on public authorities to take steps to prevent bush fires and to minimise the

³⁸ *A Nation Charred: Report on the Inquiry into Bushfires*, p.73.

³⁹ Phil Cheney *The Green Inferno* (Presentation to the Stretton Group Melbourne, November 2004).

danger of the spread of a bush fire on or from any land vested under its control or management, as well as land on which the authority is charged for maintenance. In addition to any practicable steps to prevent bush fires, the public authority is also under a duty to take steps which are either included in a bush fire risk management plan applying to the land or any steps that the Bush Fire Co-coordinating Committee advises.

A failure to act urgently on this matter may render some officials of the NPWS personally liable. This prospect arises because certain officials of the NPWS resisted all representations from the community for over a decade to restore the firebreak and provide the community with effective bushfire protection. This was in apparent defiance of the Rural Fires Act 1997, the joint memorandum of the Director General of the NPWS and the Commissioner of the Rural Fire Service on hazard reduction and relevant bush fire risk management and protection plans. Despite the limiting provisions of Section 43 of the Civil Liability Act 2002 (NSW), our advice is that these officials may be held liable in the event of a bushfire causing loss of life, injuries or serious property damage at Potato Point.

The Proposed Way Forward

A primary impression delivered by the three NPWS reports is that the organisation was intent on meeting the formal legislative requirements in planning works to restore the Potato Point Firebreak. However, in doing this it appears to have lost sight of the imperative to analyse dispassionately options that trade off key variables in turn and actively search out win-win approaches.

Due to the inaccuracies in the basic assumptions underpinning the options suggested by the NPWS and the serious omissions from the planning documents, the Association will not support any of the proposed options unless substantial modifications are made.

Nevertheless, having gathered considerable data on the surrounds of the village and met the formal legislative requirements of the process, the foundations have been laid to jointly assess and agree all elements of a practical plan to restore effective fire protection to Potato Point.

An appropriate approach would be to consider a number of options that would be composed of the following six elements. The starting point should be:

- 1. An Asset Protection Zone (APZ) of mown grass with a width of 75 metres from the back fences of the houses on the west and south of the village.**
- 2. A Strategic Fire Advantage Zone (SFAZ) of a further 75 metres width to the west and south of the village comprising modified forest, with all undergrowth and 95% of trees removed.**

3. A fuel reduction zone extending a minimum of a further 350 metres to the west, northwest and south of the village in which a program of three-yearly controlled burns reduces fuel loads. Within this zone the intent would be to protect most, if not all, significant trees, including the mature Black She-oaks, on which the Glossy Black Cockatoos feed.
4. Within, or potentially encroaching on the areas 2 and 3 above, a wide area to the west and south of the village should be revegetated with tussocky grass to provide a special reserve for the only endangered species of fauna in the area, the Striated Fieldwren.
5. A maintenance schedule needs to be developed that specifies clearly:
 - The goals of the maintenance regime
 - Precisely what type of maintenance is to be undertaken, when and by whom.
 - Who is to fund the maintenance work.
 - Arrangements for management of the maintenance regime.
6. A program to encourage responsible maintenance of properties within Potato Point so as to minimise dry fuel loads close to houses, and encourages other protective measures.

There may be scope for considering further trade-offs between the first four elements of this approach. It might, for instance, be possible to deliver equivalent fire protection to the village by extending the tussocky grass reserve but reducing the area of modified forest in the SFAZ. Other trade-offs between categories of treatment may be sensible to consider so long as they can be shown to deliver equivalent fire protection to the village.

Should the leadership of the NPWS and the Department of Environment and Heritage agree this approach, the Community Association will be prepared to nominate representatives to participate in a joint working party with a view to deriving a satisfactory outcome and resolving all outstanding issues. The goal would be to agree a satisfactory plan for restoration of effective fire protection for the village and then jointly present the proposed way ahead to the community.

Conclusions

The draft planning documentation prepared by, or for, the NPWS is extensive but flawed on several dimensions. Some of the most notable problems are, as follows:

Methodology

The three reports released by the NPWS define a pre-determined outcome from the outset and then concentrate on selectively analysing relevant factors so as to justify that outcome. In consequence, the documentation fails define

and analyse dispassionately a range of options that test potential benefits won by trading-off particular variables.

Other serious methodological weaknesses include the documentation's:

- Failure to clearly define the objective of the process.
- Failure to properly research and then describe accurately the full range of relevant factors, including terrain features, flora and fauna, weather patterns in high-risk seasons, human and infrastructure vulnerabilities and the history of local fires, prior to any consideration of options.
- Failure to take account of several serious issues raised repeatedly in community meetings (such as the need to protect the village's southern flank) which relevant NPWS staff indicated would be incorporated into the firebreak plan and which are essential for a satisfactory outcome.
- Failure to define and explore potential 'win-win' options.
- Failure to provide rigorous and cogent reasons why Option 1 will provide effective firebreak protection to the village and why it should be preferred.

Modelling

Many of the inputs and algorithms in Dr Tolhurst's model are unclear and we question many of the assumptions, particularly on the locations of ignitions, and the assumptions about the timing, direction and strength of wind changes. It appears that Dr Tolhurst's model is more about the probability of impact rather than the consequences of direct impact under "worst possible" conditions.

Nevertheless, even Dr Tolhurst concludes that in the event of a major fire, the probability of individual houses being lost at Potato Point is up to 50%.

Key Lessons from the 1985 Fire

Should Potato Point be confronted by a similar fire to that in 1985 residents would not have the benefit of a ~500 metre grassland firebreak and the full force of the crown fire could reach within 5 metres of houses. At the same time a heavy ember attack could be anticipated on a more-tightly packed urban environment that is carrying far higher fuel loads.

A re-run of the 1985 fire, or a fire of even greater size and intensity, would certainly overwhelm current defences and probably lead to the destruction of many houses and potentially the loss of lives.

Fire Risk Judgements

An Asset Protection Zone (APZ) of mown grass for 75 metres and a Strategic Fire Advantage Zone (SFAZ) with all undergrowth and 95% of trees removed for a further 75 metres would be a more appropriate overall recommendation than that in Dr Tolhurst's report.

Species Issues

No threatened flora were recorded in the area.

The only fauna type that was detected in the study area that is listed as being endangered is the Striated Fieldwren. A primary reason why the Striated Fieldwren is endangered is that the tussocky grassland on which it thrives have been seriously degraded or overrun by trees, shrubbery and other species. An important conclusion is that in order to improve the prospects for the only endangered fauna detected in the study area, there is a need to markedly expand and protect the areas of tussocky grassland.

Key Conclusions from the Royal Commissions and Public Inquiries

“There is one fundamental policy of fire prevention and of protection against fire. There is only one basis upon which that policy can safely rest, namely, the full recognition by each person or department who has dominion over the right to enter the forests of the paramount duty to safeguard the property and the rights of others. No person or department can be allowed to use the forest in such a way as to create a state of danger to others.”

“You own the fuel – you own the fire!”

The Legal Liability of the NPWS and its Personnel

The Rural Fires Act 1997 (NSW) imposes a duty on public authorities to take steps to prevent bush fires and to minimise the danger of the spread of a bush fire on or from any land vested under its control or management, as well as land on which the authority is charged for maintenance.

The Proposed Way Forward

Due to the inaccuracies in the basic assumptions underpinning the firebreak restoration options suggested by the NPWS and the serious omissions from the planning documents, the Community Association will not support any of the proposed options unless substantial modifications are made.

Nevertheless, having gathered considerable data on the surrounds of the village and met the formal legislative requirements of the process, the foundations have been laid to jointly assess and agree all elements of a practical plan to restore effective fire protection to Potato Point.

An appropriate approach would be to consider a number of options that would be composed of the following six elements. The starting point should be:

1. An Asset Protection Zone (APZ) of mown grass with a width of 75 metres from the back fences of the houses on the west and south of the village.

2. **A Strategic Fire Advantage Zone (SFAZ) of a further 75 metres width to the west and south of the village comprising modified forest, with all undergrowth and 95% of trees removed.**
3. **A fuel reduction zone extending a minimum of a further 350 metres to the west, northwest and south of the village in which a program of three-yearly controlled burns reduces fuel loads. Within this zone the intent would be to protect most, if not all, significant trees, including the mature Black She-oaks, on which the Glossy Black Cockatoos feed.**
4. **Within, or potentially encroaching on the areas 2 and 3 above, a wide area to the west and south of the village should be revegetated with tussocky grass to provide a special reserve for the only endangered species of fauna in the area, the Striated Fieldwren.**
5. **A detailed maintenance schedule needs to be developed.**
6. **A program to encourage responsible maintenance of properties within Potato Point so as to minimise dry fuel loads close to houses, and the encouragement of other protective measures.**

There may be scope for considering further trade-offs between the first four elements of this approach.

Should the leadership of the NPWS and the Department of Environment and Heritage agree this approach, the Community Association will be prepared to nominate representatives to participate in a joint working party with a view to deriving a satisfactory outcome and resolving all outstanding issues. The goal would be to agree a satisfactory plan for restoration of effective fire protection for the village and then jointly present the proposed way ahead to the community.

Attachment A

Note

Extraordinary flame heights observed in pine tree fires on 16 February 1983

M. W. Sutton

Woods and Forests Department, P.O. Box 162, Mount Gambier, SA 5290.

As part of the reconnaissance procedures during the fires on Ash Wednesday 1983, in the South East of South Australia, light aircraft were used in an attempt to follow the progress of the fires. Photographs taken during one of these flights revealed flame heights of almost 200 m, believed to be the highest recorded in Australia (Cheney,¹ pers. comm.).

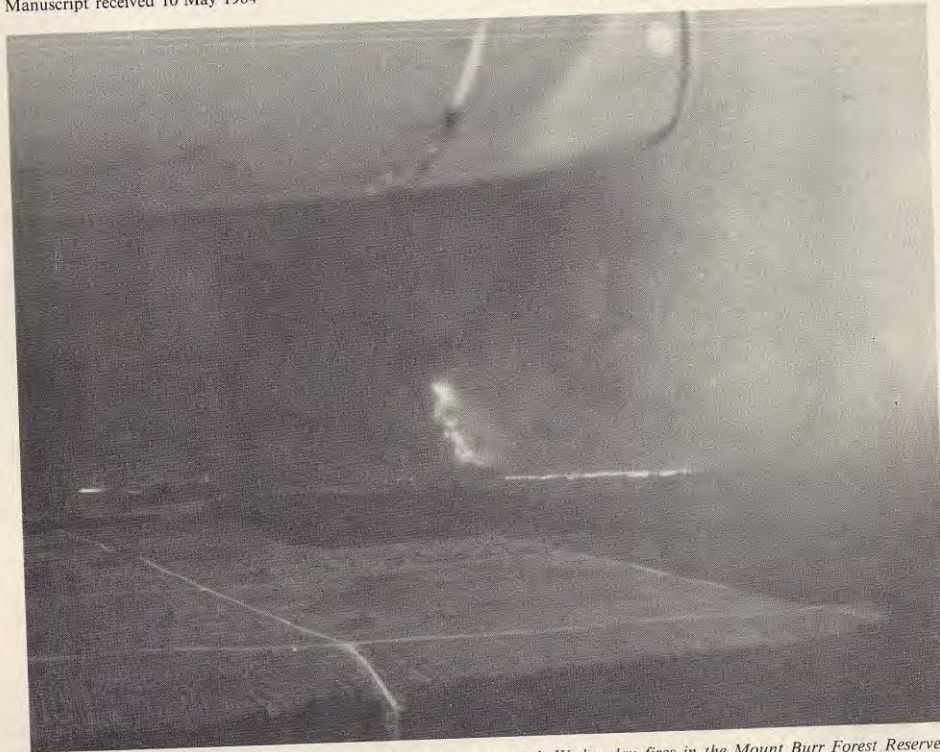
The first of the fires of the 16th February, 1983,

¹ N. P. Cheney, Division of Forest Research, CSIRO, Canberra

Manuscript received 10 May 1984

in the South East of South Australia commenced in grassland at about 1210 hours. Meteorological readings taken at the Mount Gambier Aerodrome at 1200 hours record a temperature of 40°C, relative humidity 8% and surface winds gusting to 60 km/h. These conditions, combined with the effects of the prolonged drought, meant that at the time the fires started the Forest Fire Danger, calculated using the McArthur Fire Danger Index had already exceeded the upper limit of the scale (Keeves and Douglas 1983). By 1330 hours, as a result of this exceptional fire danger and poor visibility due to dust and smoke, several of the local forest owners decided to use light aircraft to assist with reconnaissance of the fires.

By the time the accompanying photograph was taken, at approximately 1445 hours, the fires had entered the northern end of the Mount Burr Forest Reserve. At this time, the aircraft was situated about 17 km north of Millicent and 4 km south south east of Furner (see Figure 2, Keeves



Column of flame, almost 200 m high, generated by one of the Ash Wednesday fires in the Mount Burr Forest Reserve, photographed from the air, under conditions of poor visibility, at a height of 1200 feet and distance 4 km.

and Douglas 1983), flying at an altitude of 1200 feet and approximately 4 km from the flames. As a result of the increase in available fuel there was a dramatic increase in fire intensity. This is evidenced by the size of the column of flame that was located over an unthinned 1967 plantation of radiata pine on flat topography. Meteorological readings from the Mount Gambier Aerodrome taken at 1500 hours record a temperature of 40°C, relative humidity of 10% and wind speeds gusting 80 km/h (Keeves and Douglas 1983). It should be noted that the flame height photographed was by no means the maximum observed at the time, as flaring to a greater height was also visible.

In order to obtain an accurate estimate of the height of the flames, the Photographic Interpretation section of the Department of Defence in Canberra was approached. Using the known

height of the aircraft (1200 feet), and the focal length of the camera lens (40 mm), they were able to calculate the scale of the photograph at the point of flame. By measuring the height of the flame on the negative and using this scale, an estimate height of 192 metres (626 feet) above the ground was obtained. This estimate appears consistent with that obtained when the flame is compared with the measured tree heights of around 20 m in the 1967 plantation.

Acknowledgement

I would like to acknowledge the assistance given by Flt. Lieutenant Pointen of the Air Force Office of the Department of Defence in the interpretation of this photograph.

References

- Keeves, A. and Douglas, D. R. (1983) — Forest fires in South Australia on 16 February, 1983 and consequent future forest management aims. *Aust. For.* 46:148-162.

Our Reference: E98.2463

27 May 2014

Mr Tim Shepherd
Regional Manager, Far South Coast
National Parks & Wildlife Service
PO Box 656
MERIMBULA NSW 2548
potatopointsubmissions@envirokey.com.au

Dear Tim

Submission to Consultation on Potato Point fire buffer construction works in Eurobodalla National Park: Review of Environmental Factors, Species Impact Statement and Fire Risk Assessment

Thank you for providing the opportunity to comment on the proposed mitigation strategy for the Eurobodalla National Park to reduce the bush fire risk to the Potato Point community.

Council's position remains as outlined on our letter to the Minister for Environment and Heritage dated 25 October 2013 supporting the Potato Point community's proposal of vegetation clearing to re-establish the previously cleared buffer back to the old tree line (copy attached). Council resolved accordingly:

THAT Council:

- 1. offer its support for the Potato Point community's request to National Parks for the restoration of the previously cleared buffer back to the old tree line;*
- 2. take this position to the next Eurobodalla Bushfire Risk Management Committee;*
- 3. write to the Minister for the Environment seeking the State Government's support to restore the cleared buffer, with copies forwarded to the Local Member the Hon Andrew Constance MP and the NPWS Regional Manager for the Far South Coast, Mr Tim Shepherd.*

We note that the current proposals now outlined by National Parks fall way short of Council's position.

Whilst the combined proposals of Options 1 and 2 you have outlined do benefit the township, concerns remain that this will not re-instate the benefits previously existing when the whole of this area was cleared back to the old tree line. This is further exacerbated by the proposed retention of the tree band through to the edge of the township and the limited clearing proposed along the access track to Jamieson Point. Both of these issues need to be better addressed to provide increased security for the Potato Point community.

We are advised that the Potato Point Community Association has engaged the services of a nationally renowned expert in bushfire and that the Association will be submitting a report to the Minister shortly.

We ask that National Parks continue its dialogue with the Potato Point community with a view to identifying a more mutually agreed position that places protection of human life and property as the priority.

We acknowledge the Minister's stated commitment to managing the bush fire risk in the interests of community safety at Potato Point and a preparedness to work closely with the Rural Fire Service and the Potato Point community through the consultation and implementation phases.

We ask also that further works be implemented well prior to the next summer fire season.

Please do not hesitate to contact me should there be any need to discuss further.

Yours faithfully



Councillor Lindsay Brown
Mayor

Attach

Our Reference: E98.2463

25 October 2013

The Hon Robyn Parker MP
Minister for Environment and Heritage
Level 32 Governor Macquarie Tower
1 Farrer Place
SYDNEY NSW 2000

office@parker.minister.nsw.gov.au

Dear Minister

I am writing on behalf of the Potato Point community in respect to fire mitigation for their village.

We acknowledge the Minister's recent Press Release that the National Parks and Wildlife Service will work closely with the Rural Fire Service and the community will be consulted throughout the process.

Council fully supports the Potato Point community and at its meeting held on 24 September 2013 moved a motion to seek the State Government's support to restore the previously cleared buffer to the old tree line.

This parkland firebreak would provide the minimum defensive depth in order to permit fire vehicles and fire fighters to operate with any chance of success on the approaches to the village.

Since the declaration of the Eurobodalla National Park in 1995, thick forest and scrub have been allowed to grow up to the back fences of residences.

During recent years, numerous professional fire assessments have concluded that in the absence of a 200 metre asset protection firebreak, it would be virtually impossible to protect most of the houses at the point were the village to again face a serious bushfire, such as that experienced in 1985.

The Eurobodalla Bush Fire Risk Management Plan 2010 concluded that the fire risk to Potato Point was high and directed that early action be taken to maintain and monitor the Asset Protection Zone.

We look forward to National Parks and Wildlife Service working with the Rural Fire Service to restore the previously cleared buffer in readiness for the bushfire season.

If further information is required, please do not hesitate to contact me.

Yours faithfully



Councillor Lindsay Brown
Mayor

SUBMISSION BY THE EUROBODALLA GREENS

P.O Box295, MORUYA NSW 2536

Email: eurobodallagreens@yahoo.com

Consultation on Potato Point fire buffer construction works in Eurobodalla National Park: Review of Environmental Factors, Species Impact Statement, and Fire Risk Assessment

Eurobodalla Greens commend those responsible for commissioning these reports and thank you for the opportunity to submit comments. On reading these detailed documents members are very concerned about the process put in train by the former Minister, the Honourable Robyn Parker. She acted in response to communication with some of the residents of Potato Point, who voiced their fears, and made ill-informed demands for urgent action to protect the people and houses in the village from bushfires.

1. Potato Point Bushfire Risk Assessment 22 April 2014

It is the results from this bushfire risk analysis that should form the basis of a comprehensive set of management objectives and bushfire risk mitigation strategies for a Potato Point Fire Protection Plan.

The report concludes that: Potato Point is in a relatively low bushfire risk part of the State; the threat to human life is low due to a number of factors, including the opportunities to find safe places to take refuge within the township; and that the greatest threat to house survival is the nature of the fuels in gardens on private property and the level of prevention works undertaken in and around the houses.

Many of our members live in other small rural settlements scattered throughout the Shire which have higher fire risk ratings according to the Eurobodalla Bush Fire Risk Management Plan. Given the findings of this report, Eurobodalla Greens can only conclude that those calling for urgent bushfire hazard reduction work at Potato Point are seeking to prioritise that area ahead of other, higher risk, parts of the shire.

**2. Review of Environmental Factors
Proposed Fire Buffer Construction Works (Stage 2),
Eurobodalla National Park, NSW Far South Coast Region, 21 April 2014**

This Review of Environmental Factors (REF) was commissioned by the New South Wales (NSW) Office of Environment & Heritage (OEH) and released at the same time as the Bushfire Risk Assessment Report. The REF relates specifically to what are described as proposed Stage 2 works in Eurobodalla

National Park to create a fire buffer to the village of Potato Point in addition to that already undertaken in Stage 1 works. This is putting the cart before the horse - it would have been logical to wait and see if the Bushfire Risk Assessment shows a need for more work. Conclusions of this assessment do in fact show that these Stage 2 works are not essential to protect Potato Point village.

Under the heading Reasons for Proposed Works, we are appalled to read that the Minister for the Environment and Heritage has committed NWPS to undertake the proposed works, subject to environmental assessment and protection of core environmental values. This commitment was in response to submissions made by members of the Potato Point Community Association, and was given before the actual fire risks were established. It is to be hoped that the Minister was also informed of the wide range of community views that were not in favour of further clearing work.

The report goes on to reveal that the proposed works would result in the Potato Point fire buffer exceeding the requirements detailed within the Planning for Bushfire Protection guidelines and are in excess of the requirements of the Eurobodalla Bush Fire Risk Management Plan (RFS 2011). Eurobodalla Greens believe that the Minister has been excessive in attempting to allay the concerns of some of the residents of Potato Point.

3. Species Impact Statement (SIS) Potato Point Fire Buffer Construction Works (Stage 2), Eurobodalla National Park, Far South Coast Region April 2014

Our concern grows when we find the species impact of the proposed works to be carried out in the Eurobodalla National Park. Creating the enhanced firebreak, which the risk analysis shows will do nothing to improve the safety of houses or people, will result in the removal of 1.47 hectares of native vegetation and habitat from Eurobodalla National Park. The affected species comprised 19 threatened fauna and one endangered ecological community - the Swamp Oak Floodplain Forest - which will lose 1.03 hectares.

4. Preferred Option Option 3: Do nothing

Eurobodalla Greens support the “do nothing” option. Fire risk analysis shows the proposed Stage 2 works will not improve the protection of Potato Point village. Doing nothing also means there will be no impact on the Swamp Oak

Floodplain Forest EEC, other threatened species habitat, SEPP 14 Wetland no: 136, and the surrounding environment. There will also be no impact on Aboriginal cultural heritage and no construction or maintenance cost. It is unconscionable to see the sole disadvantage being described as inconsistency with the commitment of the Minister for Environment and Heritage. This is especially so since the commitment was made before the risk factors were established. We submit that it would be almost impossible to alleviate the fears of everyone when it comes to threats from bushfires.

5. Establishing an undesirable precedent

The response of the Minister has set an undesirable precedent. The financial costs of the research and analysis necessary to try to allay the fears of all residents of Potato Point are high. The inevitable damage to habitats of threatened species and an endangered ecological community means environmental costs are also high.

Residents of other small settlements around Eurobodalla may well request - and expect - similar expensive studies and works which they believe would reduce their bushfire risk. The resulting snowball effect would be the destruction of areas in more of our local national parks for no proven gains in improving bushfire safety.

In this instance, logical process was overridden in response to ill-informed and emotional opinions of some members of the Potato Point community. Bodies that have been put in place to manage bushfire risk, such as the Eurobodalla Bushfire Risk Management Committee, should be left to formulate local bushfire plans.

Sheila Monahan

Secretary for Eurobodalla Greens



OUT14/15331

Mr Tim Shepherd
Regional Manager, Far South Coast
National Parks and Wildlife Service
PO Box 656
Merimbula NSW 2548

Dear Mr Shepherd,

Re: Review of Environmental Factors – Proposed Fire Buffer Construction Works (Stage 2), Eurobdalla National Park, NSW Far Coast Region

The responsibilities of the Department of Primary Industries in relation to NSW marine parks are to ensure that marine biological diversity and marine habitats are conserved and ecological processes are maintained. With regard to land use planning and approvals the Department ensures that activities within or adjacent to the park comply with or are consistent with the requirements of the *Marine Parks Act 1997*, *Marine Parks Regulation 2009* and the *Marine Parks (Zoning Plans) Regulation 1999*.

Where an activity is proposed to occur adjacent to a marine park, the Department is primarily concerned with ensuring that any associated environmental effects do not adversely impact the marine biodiversity and ecological values of the marine park.

The proposed fire buffer construction works are located around 100 metres from Jemison's Beach creek habitat protection zone.

The objects of a habitat protection zone (Cl.1.8 Marine Parks (Zoning Plans) Regulation 1999) are:

- (a) *to provide a high level of protection for biological diversity, habitat, ecological processes, natural features and cultural features (both Aboriginal and non-Aboriginal) in the zone, and*
- (b) *where consistent with paragraph (a), to provide opportunities for recreational and commercial activities (including fishing), scientific research, educational activities and other activities, so long as they are ecologically sustainable and do not have a significant impact on any fish populations or on any other animals, plants or habitats.*

'Degradation of native vegetation along NSW water courses' has been listed as a key threatening process under Schedule 6 of the *Fisheries Management Act, 1994*. Riparian and in-stream vegetation play an important role in stabilising banks, preventing erosion and siltation, and also partially filtering out pollutants, such as soil, pesticides and fertilizers, being carried into the waterway.

Recommendations for buffer width are based on habitat and waterway characteristics, the possible extent of disturbance likely associated with a proposed use or development, and susceptibility of the foreshore to erosion. A 100m riparian buffer to the waters edge would normally be recommended for this location. This is based on guidelines within the DPI 'Policy and guidelines for fish habitat conservation and management (update 2013)', Section 3.2, under which Wallaga Lake would be classified as habitat and waterway Type 1, Class 1. Under Section 6.1.4 this classification of habitat is recommended to have a 100m buffer.

The following matters should also be taken into consideration and addressed in the assessment and approval process and any approval conditions:-

Stormwater – During the works stormwater will need to be managed using best practice principles to avoid impacts to the foreshore and to the water quality of the marine park. Stormwater leaving the site should comply with the water quality benchmarks for estuaries of the catchments within the Batemans Marine Park as expressed in the NSW Water Quality Objectives (WQOs) developed in accordance with the ANZECC 2000 Guidelines on water quality. (Further info is available on the OEH website at (www.environment.nsw.gov.au/ieo/Bega/index.htm)).

Sediment and erosion control - Design, management and implementation of pollution controls must be consistent with "Managing Urban Stormwater: Soils and Construction" (NSW Landcom, 2004) to ensure containment of sediment to the immediate work site. All sediment control measures must be regularly inspected and cleaned out and/or repaired as necessary, and all collected silt disposed of appropriately.

Water Quality - Any water discharged from the site should meet the above mentioned NSW Water Quality Objectives as required under the *Protection of the Environment and Operations Act 1997*.

If you have any queries regarding the above please contact the Batemans Marine Park office on the number listed below or via email to batemans@mpa.nsw.gov.au.

Yours sincerely,



Rachel Mason
Manager
Batemans Marine Park

27 May 2013

TUROSS LAKES PRESERVATION GROUP INC.

Incorporation No. Y13764-21 ABN 96 402 244 576

25 Coila Avenue

TUROSS HEAD NSW 2537

27th May, 2014

The Manager
NPWS Far South Coast Region
PO Box 282
NAROOMA NSW 2546

Dear Sir/Madam,

**Potato Pt Fire Buffer Constructions Works, REF, SIS &
Potato Pt Fire Risk Assessment**

Our Group would like to submit comments regarding the above.

We are interested in the catchment of the Tuross Lakes having been involved in environmental issues and large landcare projects in this area since 1990. Eurobodalla National Park, with its native vegetation cover bordering the southern side of the Tuross estuary, helps to maintain good water quality in the lake. Any reduction in protection of EECs and Threatened Species in that area, east to Blackfellows Pt. and towards Potato Pt. is therefore of particular concern to us.

Proposed Works for the Stage 2 study area: OPTION 1

As some of the Potato Pt residents are not satisfied with the initial work carried out to reduce fire risk we note that the Minister has committed the government to carrying out further work. **Option 1 is listed in the Report as the preferred option and we submit that this would be the most appropriate one.** Our reasons are as follows:

- The Report indicates that Option 1 is “consistent with commitments to the community to carry out fire protection works east of Jemison’s Point Road”
- The works will exceed “the requirements within the Planning for Bushfire Protection guidelines” and “the Eurobodalla Bush Fire Risk Management Plan (RFS 2011).”

We regret, however, that “this option would impact a proportion of the SOFF EEC” but at least it does not include the “core area considered essential to the long-term viability of the SOFF EEC” and “retains important habitat for threatened species and provides protection of SEPP 14 wetland No. 136 from potential erosion and sedimentation”.

Maintenance of fire protection works within nearby private properties: The Report notes, that “ember attack may still pose a significant risk under extreme and catastrophic conditions and does not alleviate the need for landholders to carry out fire protection works close to structures.”

Continued on next page.....

(Page 2 – submission re Potato Pt Fire Risk Assessment, etc)

It should be noted that modelling that was carried out after the devastating Victorian bushfires of February, 2009 indicated that the single most effective treatment that was measured required severe reduction in tree and shrub cover within 40m of houses.

We also suggest the following be taken into consideration:

Additional funding be provided to NPWS Narooma to carry out the proposed works under Option 1 and the ongoing maintenance involved.

Yours sincerely,

Maureen Baker, OAM
Secretary, Tuross Lakes Preservation Group Inc.
<maureenbaker@netspace.net.au>