



2018 Dieback Information Group Conference

Friday, 31 August 2018

Wembley, Western Australia

Workshop Report

This Workshop Report captures the input and ideas of 160 participants over four separate workshop sessions at the Dieback Working Group Inc.'s (DWG) 2018 DIG Conference held on 31 August 2018 at The Bendat Parent and Community Centre in Wembley, Western Australia.



Dr Richard Walley providing the keynote presentation



natural resource
management program



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Facilitation and
reporting by
Tuna Blue Facilitation



Executive Summary

160 participants at the 2018 DIG Conference worked in small table groups throughout the day on the following workshop questions using digital technology:

1. *What are your **early reflections or insights** on the current mitigation and management of Phytophthora Dieback?*
2. *What are the **actions** you will undertake over the next 12 months to mitigate or manage Phytophthora Dieback?*
3. *What are the **strategic choices / directions / positions** that we must make collectively in WA to ensure effective mitigation and management over the next 5 years?*
4. *The Dieback Working Group is keen to ensure greater State-wide coordination of best practice, advocacy and achievements in a 'hub and spoke' style approach...*
*What would you like to see contributed to this **best practice hub**?*
What suggestions do you have for this hub to provide great value to stakeholders in the Phytophthora Dieback space?

The following key themes were consistently raised throughout the four workshop sessions:

- Advocate and lobby for ongoing Government support and funding of Dieback, particularly for mapping activities and on-ground management.
- Raise community awareness of Dieback through targeted engagement with recreational groups, school education programs and public campaigns.
- Increase mapping and public sharing of data through tools such as DIDMS.
- Increase Indigenous engagement in the monitoring and management of Dieback by working together to incorporate cultural knowledge and indicators.
- Ensure greater on-ground hygiene compliance and management through Green Card training, nursery accreditation, enforcement of regulations and provision of washdown infrastructure.
- Focus on further building the knowledge base, especially translating existing research and technology into practical field methods and tools.

This Workshop Report captures the common themes from each workshop session plus the full detail of all responses clustered under the theme headings.

1. Early Reflections and Insights

*What are your early reflections or insights on the current mitigation and management of *Phytophthora Dieback*?*

Common Themes

The common themes for the early reflections and insights were:

1. Require more Dieback attention and funding from State and Local Government, and better communication between Agencies
2. Ongoing mapping plus updated and publicly available data is essential
3. Greater awareness raising with community is needed through media, education in schools, signage and cleaning stations
4. Plenty of research and science exists but need for greater focus on translation to on-ground methods and action
5. Increase engagement with Indigenous communities and work with them to utilise cultural knowledge in mitigation and management
6. Increase technology for detection, management and monitoring
7. Enforce greater risk assessments and hygiene protocols



Some of the 16 presenters at DIG 2018

The participant responses in full detail were:

Require more Dieback attention and funding from State and Local Government, and better communication between Agencies

- Dieback needs more attention by Government
- Not enough done in Local Government
- Need a change in values at all levels, from community to Government
- The government should be more generous with funding, this is our country there needs to be a future
- Need for increased leadership at the State government level for dieback coordination and funding as per biosecurity structures
- Communication from lead agencies needs improving in a spiritual and cultural manner
- Lack of funding
- Government advocacy
- Councils need to take an active role in mapping and educating
- Lots of potential but we need more investment from the State
- Why isn't DBCA presenting given they are the lead agency responsible for biodiversity?
- Need more resources
- Insufficient funding
- Lack of funding
- Better communication between government agencies, specifically DWER and DBCA in the management of Dieback
- If economy is so dependent on environment then why does the Government not put more funds into support?
- Lack of investment in mitigation
- Inconsistency of standards and guidelines across Government, industry and community bodies

Ongoing mapping plus updated and publicly available data is essential

- Map locations of shared clean down facilities, particularly for remote areas
- Access to quality current data and maps
- Centralised data repository across the State
- Up-to-date mapping in public domain
- Better data
- Need better sharing of data
- Accessibility of dieback maps to be improved with updated info
- Needs more mapping outside of the DBCA estate
- Information sharing needed
- Data overtime
- Data is essential
- Mapping essential
- Mapping is focused on where the dieback is, not where it isn't and the question remains why. Does the microbial activity in the soil play a role?
- Baseline data

Greater awareness raising with community is needed through media, education in schools, signage and cleaning stations

- Desperately need to broadcast awareness (i.e. schools, social media, newspapers)
- Better behaviour change drivers for stakeholder groups
- Education modules of dieback in schools (especially primary schools)
- A need to engage with and educate younger generations and increase involvement in community groups
- Big big signs
- Publicity of current knowledge
- Need to raise awareness of programs like DIDMS to the general community (i.e. phone app)
- Government sponsored ads for general public so there is not so much reliance on signage
- Impetus for the general public to engage and care about the environment and accessibility of the bush for active recreation
- Still a lack of community awareness that needs to be addressed
- Community awareness is non-existent
- Signage and cleaning stations need to be updated around Perth parks and bushlands that are accessed by the public. The community could be better informed about dieback to increase awareness of the disease
- More education in urban areas could be useful
- Community Engagement
- Community education
- Increased community involvement, more work needed to raise awareness
- Need greater engagement on private property for mitigation and management
- Not enough education and knowledge within the community
- Need more media attention towards dieback management
- Lack of community awareness is a stumbling block
- Need for better engagement techniques with local communities
- Has the wider community given up?
- Community awareness needs to be raised

Plenty of research and science exists but need for greater focus on translation to on-ground methods and action

- The science is there, need the community engagement and awareness, reaching people and understanding why they don't care or become involved. How do we reach those who are not engaged? Involve community in decision making process. Disconnect between government and community around phytophthora management.
- Lot of research but little action (or action visible to general public) over the last 10 years
- Research is fantastic and each rabbit hole may lead us to a treatment breakthrough, but what has changed for practitioners on the ground? Do we put chemical hygiene vehicle cleaning bays at the entrance to all reserves, when natural drainage vectors bring the disease in? Do we lime our paths and firebreaks (when lime up the Scarp is not a natural "soil") Specifically in Perth urban & peri-urban locations

Increase engagement with Indigenous communities and work with them to utilise cultural knowledge in mitigation and management

- Increased Indigenous engagement required
- Little or no biocultural indicators used in WA, how can we improve on this?
- Working with Indigenous knowledge

- We have to care for our country, correct and thoughtful interaction with our natural resources
- Cultural connections to be utilised in research and education
- In Australia we seem to focus more on the pathogen rather than the whole forest and community
- Can we draw more on indigenous ideas for holistic management

Increase technology for detection, management and monitoring

- Phone app should be weather linked to indicate high risk times in terms of pathogen spread
- Importance of technology in detection and management
- Inability to track and monitor recreational users

Enforce greater risk assessments and hygiene protocols

- Inability to enforce hygiene management for recreational users / general public
- Requirement for management of cleaning stations
- Containment is possible
- Developing more proactive site risk assessments to prevent initial infection
- Develop disinfection techniques using metham sodium for basic raw materials

Other comments

- Identify the unique assemblages and interactions of pathogens that impact ecosystems, recognising that disease management is broader than Dieback
- Good support to community groups from Local Government and Catchment Councils
- More groups doing green card training



Curtin Uni PhD Candidate, Christina Andronis presenting (above). Thanks also to Manisha Kunadiya, Murdoch Uni PhD/Molecular Plant Pathologist Louise Croeser, Murdoch Uni PhD in Forest Pathology for presenting their current research projects.

2. 12 Month Actions

What are the actions you will undertake over the next 12 months to mitigate or manage Phytophthora Dieback?

Common Themes

The common themes for the 12 month actions were:

1. Build Dieback awareness at a community level with peer groups, residents and organisations beyond the converted
2. Undertake targeted Dieback education and awareness raising, particularly in school settings
3. Build Dieback awareness internally within organisations
4. Contribute more data to / utilise DIDMS further
5. Undertake Dieback mapping and surveys
6. Promote or undertake Green Card training
7. Continued research and learning about Dieback and it's impacts
8. Undertake on ground management and recovery of Dieback affected sites
9. Increased hygiene protocols and practices including spray down of cars, boot scrubbing, installation of cleaning infrastructure
10. Develop or review / update Dieback manuals and management plans



Special guest Mr Chris Tallentire MLA addresses the conference

The participant responses in full detail were:

Build Dieback awareness at a community level with peer groups, residents and organisations beyond the converted

- Tap into peoples' values to raise importance of protecting the area
- Promote respect and the value of our natural spaces
- Spreading knowledge and awareness amongst peers and friend groups
- Develop an effective message in communicating to Government and the broader community
- Nature can adjust by their own, we should change the behaviour of individual. Everyone has responsibility for their life and their next generation
- Getting the message beyond the converted
- Taking current knowledge to the residents
- Suggest more community education
- Local community sharing of information, especially for new members
- Start a petition for an ad campaign for public education
- Educate the community
- Increase community awareness

Undertake targeted Dieback education and awareness raising, particularly in school settings

- Talk to students at Schools and TAFE
- Investigate primary school education
- Education at primary and secondary schools with spin off to parents
- Targeted education
- Community group awareness and education (e.g. bush walking, active Dieback actions)
- Education of landholders

Build Dieback awareness internally within organisations

- Spread awareness to other directorates within my LG
- Increase public and staff awareness within our Council
- Working with City of Armadale to re-do signage and update cleaning stations and committee to undertake Green Card training
- Continue to audit accredited nurseries for biosecurity compliance
- Introducing Dieback excursions, including hands on treatment and hygiene workshops. Expanding education programs to community groups also

Contribute more data to / utilise DIDMS further

- Set up a DIDMS login
- Utilise DIDMS data templates when undertaking interpretation surveys
- Use DIDMS mapping tools to plan before going out in field
- Looking to sharing data across organisations and agencies
- Identify the blockage in why information about Dieback are not available for DIDMS
- Contribute more data to DIDMS
- Main Roads to change brief to ensure Dieback survey is based on DIDMS

Undertake Dieback mapping and surveys

- Contribute to Dieback mapping
- Mapping and testing to confirm current Dieback status
- Mapping and preventative treatment in reserves as part of rolling programs
- Get Dieback mapping for reserves
- Reporting signs of bushland health decline, even if you're not confident about whether it'd Dieback or not, raise it with LG
- Conduct Dieback surveys
- Phytophthora interpretation survey
- Propose budget items to undertake mapping interpretation activities

Promote or undertake Green Card training

- Upskilling for community groups through Greencard training
- Train contractors in Green Card training
- Promote Green Card training within separate organisations
- Implement e-learning portal for Green Card training
- Further Green Card training
- In house training including machinery operators
- Develop an internal training network for my company
- Green card training
- Community groups to promote and encourage uptake of green card training
- Implement Green Card training and influence others
- Green Card training for operations staff (LG)
- Green Card training for staff
- Continue to train DBCA staff with Green Card training

Continued research and learning about Dieback and it's impacts

- Increase our knowledge of the biology, ecology and epidemiology of Phytophthora through post-graduate student training
- Learn more about the different species of Phytophthora present
- Investigate other environmental impacts on Phytophthora
- Understand those who do not value the management of Dieback
- The Centre for Phytophthora Science and Management (CPSM) will continue to work on best practice protocols for traditional and molecular detection of Phytophthora
- Ongoing research with Murdoch and ArborCarbon
- More investigation into bushland decline
- Attend the next DIG conference
- Write my damn thesis

Undertake on ground management and recovery of Dieback affected sites

- Focusing on the Swan Coastal Plain Banksia Woodland TEC in future projects, identifying threats and implementing on ground activities
- Get involved in restoring Dieback infested sites

- I will introduce granular soil microbes as part of a preventative treatment near paths and areas around Kensington Bushland
- Fencing people out where necessary
- Install Signage within reserves
- Building Dieback management into projects
- Receive State NRM funding to carry out intensive Dieback mitigation activities in Norman Rd bushland including Dieback sumo and contribution from the development group who 'manages' it
- Continue to deliver on ground recovery works related to priority protection areas
- Put in state NRM regional scale grant developed in conjunction with three member councils based on the Dieback project.
- Join a Friends Of group

Increased hygiene protocols and practices including spray down of cars, boot scrubbing, installation of cleaning infrastructure

- Purchase brushes and metho to keep within vehicles of our service unit
- Adhere to signage
- Maintain hygiene standards
- Better hygiene
- Review construction activity hygiene clauses
- Update bush crew cleaning procedures
- Avoid field work in the rain
- Spray down and clean cars
- Maintain cleaning of exploration equipment prior to entering site and prior to leaving site
- Install boot cleaning stations within reserves
- Hygiene management on projects
- Improve soil hygiene practices
- Clean boots
- Scrub my boots
- Ensure vehicle hygiene
- Update cleaning stations
- Continue to be proactive towards behavioural changes in industry

Develop or review / update Dieback manuals and management plans

- Create a pathogen management plan
- Review management manual
- Refining DBCA's 2017 Dieback Management Manual
- Dieback Management Plans
- Review and update policies and procedures
- Lobby EPA to develop guidance statement on Dieback management
- Review hygiene management protocols
- Review Dieback Management Plans
- Assessment of all bushland on a 5 year plan, not just Banksia woodland
- Links on DWG website with useful tools for public use

3. 5 Year Strategic Directions

What are the strategic choices / directions / positions that we must make collectively in WA to ensure effective mitigation and management over the next 5 years?

Common Themes

The common themes for the 5 year strategic directions were:

1. Improve general community awareness of Dieback, its impacts and how it spreads through advertising, social media and community group engagement
2. Build key industry and community partnerships to spread greater awareness of Dieback with key target groups, including Noongar community, Friends Of groups, RAC and recreational organisations, Couth Coast NRM and New Zealand colleagues
3. Target Dieback education in school settings
4. Ongoing advocacy and lobbying to all levels of Government for adequate funding to undertake mapping and management activities
5. Engage with Local Government on mapping, monitoring and hygiene management
6. Enabling greater adherence to best practice hygiene standards through Green Card Training, washdown infrastructure, accreditation and practice change
7. Ensure greater access and contribution to Dieback mapping and databases (i.e. DIDMS)
8. Advocate for greater regulation and enforcement of Dieback policies
9. Ongoing research and analysis of Dieback and its impacts on values



DWG Project Officer Bruno Rikli presents DWG's 2018 annual update

In detail

The participant responses in full detail were:

Improve general community awareness of Dieback, its impacts and how it spreads through advertising, social media and community group engagement

- Ensure communication
- Change mindset of the general public
- Integrated into tourism and advertising
- Improve social media engagement
- 1 minute documentary on every domestic flight about biosecurity and pathways
- Awareness raising
- Make sure that there are actions being taken and elements of hope in awareness raising to avoid fear and despair
- Keep it in the public eye (e.g. in newspaper etc.)
- More focus on education of recreational users in bushland
- Understanding social groups and determining the best approach to reach them
- Social media engagement with the younger generation
- Sustained public awareness campaign to engrain awareness of Phytophthora, its impacts and how it is spreads
- Increasing awareness for business that undertake activities that may spread Dieback
- Monitor education campaigns to analyse effectiveness of delivery types
- Wider training and awareness raising
- Education and enforcement
- Changing behaviours
- Better communication
- Community awareness
- Informing community groups
- Awaken public awareness
- Raise awareness of Dieback
- How to convert the unconverted; change the behaviour of those who are not converted yet
- General public education, especially 4wd and motorbike users
- Ongoing public education
- Sharing knowledge
- Support community groups

Build key industry and community partnerships to spread greater awareness of Dieback with key target groups, including Noongar community, Friends Of groups, RAC and recreational organisations, Couth Coast NRM and New Zealand colleagues

- Consult with local Noongar community to share bushland preservation knowledge
- Better use of technology to engage with wider 'friends of' groups and interested people (i.e. points for every time you clean down)
- Collaboration with RAC and recreational organisations to provide public awareness and group training with clubs
- Info at events for 4WD and mountain biking groups
- Stop, collaborate and listen (with New Zealand)
- Strengthen industry connections
- Work closer with social scientists to achieve reaching a broader audience
- DWG and South Coast NRM to develop an MOU and define relationships
- DWG to build key industry partnerships

Target Dieback education in school settings

- 'Adopt an area' by schools or groups for them to look after and create a relationship with
- Education targeting high schools as well
- Education of the general public, especially in schools
- Government buy in (Education Department) to produce educational resources for roll out in all schools in the South West
- Teaching children in schools
- Engage Department of Education to update general high school knowledge (more so than primary schools) on Dieback and utilise bushland for schools set aside by Perth Biodiversity Project

Ongoing advocacy and lobbying to all levels of Government for adequate funding to undertake mapping and management activities

- Raise the level of community awareness to a point where it has an influence politically to give adequate funding for research, development and on ground action. The kind of awareness we have seen for Carnaby's Cockatoo conservation.
- Establish a clear method for community to influence government decisions on Dieback (reestablish DCC or identify an alternative)
- Wider community awareness advocating for Government funding
- Ongoing lobbying to all levels of Government to ensure up-to-date and adequate funding for ongoing mapping and management tools
- State leadership and funding for a critical threat to biodiversity
- Securing ongoing funding
- Be involved in pushing for funding

Engage with Local Government on mapping, monitoring and hygiene management

- Identify how to engage Local Governments that are not a part of WALGA
- Increase engagement with Local Government and increase the amount of mapping and planning done by them
- Building on relationships with Local Governments to monitor and notify unauthorised access and lack of hygiene management
- More councils to put in washdown stations and educate in local reserves

Enabling greater adherence to best practice hygiene standards through Green Card Training, washdown infrastructure, accreditation and practice change

- Ensure contractors dealing with bushland have Green Cards or are otherwise adhering to hygiene protocols
- Publicly available car wash down stations
- Parking bays and rest areas should be sealed in Dieback susceptible areas
- Green card training for volunteer fire brigades
- Keep dogs out of bushland
- Requirements for LG to use NIASA accredited nurseries.
- Create better hygiene standards around mulch content
- Everyone use the Dieback Management Framework and Atlas
- Awareness of nursery accreditation as many people have no idea what this means and why is it important
- Be prepared to exclude people and close access to protect uninfested areas

Ensure greater access and contribution to Dieback mapping and databases (i.e. DIDMS)

- Explore the option for a Google Maps layer of Dieback infested / uninfested areas
- Everyone access and use one Dieback database / mapping tool
- Improve data input, especially from DBCA, into DIDMS
- Share mapping and add to DIDMS
- Promotion of DIDMS resources
- Requirement for Dieback treatment and assessment companies and entities engaging them to submit GIS mapping to DWG to enable update of the Dieback atlas, similar to licensing requirements for flora and fauna survey (spp range extensions, flora specimens, etc.)
- Continue sharing mapping and info

Advocate for greater regulation and enforcement of Dieback policies

- EPA policies regarding Dieback
- Regulation for bushland on private property
- Law changes (EPA)
- Landholder stewardship and supporting and building the capacity of private landholders
- Enforce compliance on operators in private land
- Lobby EPA for policy changes

Ongoing research and analysis of Dieback and its impacts on values

- Link the effects of Phytophthora with hard economic figures (loss of profit etc) and aesthetic, social and cultural values
- Understanding which species are best suited for rehabilitation
- Ensuring research into all species of Phytophthora and where they occur
- Increased research
- Promotion of citizen science programs to encourage a connection and culture of community and personal stewardship
- Encourage companies to invest in research

Other comments

- Focus on containment to bide time
- Rehabilitation of areas
- Introduce a programme of testing
- Create bio-resilience through planting choices and future planning of our urban canopy



Cameron Crowe (DWG Chair) thanking Ingrid Sieler (Perth NRM) for assisting to coordinate DIG 2018

8. Best Practice Hub

The Dieback Working Group is keen to participate in greater State-wide coordination of best practice, advocacy and achievements in a 'hub and spoke' style approach...

What would you like to see contributed to this best practice hub?

What suggestions do you have for this hub to provide great value to stakeholders in the Phytophthora Dieback space?

Common Themes

The common themes for the best practice hub were:

1. Share information, best practice and connections to other networks (e.g. WALGA)
2. Collaborate on practical, on ground activities to prevent spread and rehabilitate areas
3. Engage the community and build Dieback awareness
4. Share, explore and encourage enforcement activities
5. Encourage use of NIASA accredited nurseries
6. Translate research and development into on- ground methods and tools
7. Contribute to mapping and data sharing processes
8. Facilitate hygiene and Green Card training



Tui Shortland (NZ special invitation presenter) and Cameron Crowe (DWG Chair)

In detail

The participant responses in full detail were:

Share information, best practice and connections to other networks (e.g. WALGA)

- More cross promotion of DWG (e.g. on the DBCA website and Council websites)
- Encourage students and researchers working on Dieback with kind words and support
- DWG to utilise WALGA via NAMN forums to disseminate information to LGs
- Distribute internal Dieback management practices within our business
- Advocate DWG to update resources
- Information sharing
- Share the knowledge we've learned today
- Better communication between people with different levels of knowledge
- Promote and encourage training workshops within the workplace
- Keeping up with and continuing to follow best practice over the long term not just the short term
- Knowledge sharing from research collaboration into materials research and outcomes
- Share information and promote learning
- Industry expertise
- Botanical knowledge
- Listen and learn
- Education and promotion inside and outside of our organisations
- Share information
- Share our knowledge with others
- Share knowledge

Collaborate on practical, on ground activities to prevent spread and rehabilitate areas

- Implementation of practical on ground procedures to prevent spread
- Developing a programme of planting and protecting threatened species in our cities non infected areas
- Join a Friends Of group
- Get involved with community groups
- Involve community groups
- Sustained effort
- Nominate sites for rehabilitation studies - seed collection, Scarp v SCP sites, rehab effectiveness
- Offer bushland to use for research and other works
- Rehabilitation trials
- Volunteer personal time
- Arrive clean and leave clean

- Opportunities for collaborations
- Walk the talk
- Volunteer my skills and time

Engage the community and build Dieback awareness

- Encourage people to go barefoot
- Encourage proper Dieback signage
- Public relations
- More engagement with recreational associations (e.g. 4WD, MTB)
- Regional advertising campaign regarding dieback mitigation
- Become a Dieback management advocate
- Create Dieback forums for public use
- Help community groups better understand what they can do
- More engagement with Indigenous groups
- Spread the word
- Education and community engagement
- Education
- Educate the people
- Consider opening a pathway to align communication and collaboration with Noongar landholders

Share, explore and encourage enforcement activities

- Investigate enforcement avenues
- Prevent access to areas during wet conditions through temporary road closures
- Deal with illegal firewood collectors who spread it
- Reduced illegal and inappropriate access and providing alternative recreation
- Increased compliance efforts

Encourage use of NIASA accredited nurseries

- Only buy from NIASA accredited nurseries
- Ensuring our city council is using an accredited nursery
- Lobby to make NIASA accreditation mandatory for nurseries
- Ensure use of accredited NIASA nurseries
- Demanding the use of accredited nurseries

Translate research and development into on- ground methods and tools

- Developing monitoring methods to improve knowledge
- Taking some of this amazing research and turning it into workable tools to assist industry and environmental groups

- Encourage seed collection of resistant individuals for propagation but also before the Dieback front wipes out whole populations
- Industry build on resistant species research and information (e.g. sharing knowledge and making work sites available to study)

Contribute to mapping and data sharing processes

- Technology platforms for data sharing
- Accessing funding to have all reserves mapped
- Sharing collected data and making data publicly available
- Be aware of the available tools and make others aware, ensure our data is being fed into these systems

Facilitate hygiene and Green Card training

- Partner with sponsors to produce hygiene kits
- Advocate Green Card training
- Getting everyone Green Cards that are involved in processes
- Lobby to have Green Card training mandatory for all industry practitioners

Other comments

- DWG to facilitate monitoring and evaluation of behaviour change strategies (are they working?)
- Update website and keep updated
- Rehabilitation guidelines that take into account the resilience of species to Dieback, as well as their value to foraging species



Professor Giles Hardy wraps up the day!



DWG Inc wishes to acknowledge all volunteers, presenters and attendees at DIG 2018.

Thank you,

Cameron Crowe
CHAIR DWG Inc.

