

Didymo Long-Term Management Programme

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Acknowledgements

MAF Biosecurity New Zealand has led development of this programme for didymo through a series of national and regional workshops with partners. Partners involved include the Department of Conservation, Fish and Game New Zealand, local government agencies, affected industry organisations and specific Māori entities.

MAF Biosecurity New Zealand would like thank those involved for their constructive engagement in the development of the programme and their enthusiasm as it is rolled out at a regional level. The programme has been developed to allow new partners to become involved as their capability allows.

Purpose

1. This document outlines a long-term management proposal aimed at reducing the impacts of *Didymosphenia geminata* (didymo) and considers roles for potential management partners.
2. This paper was developed following discussions with a range of partner organisations and sectors.

Context

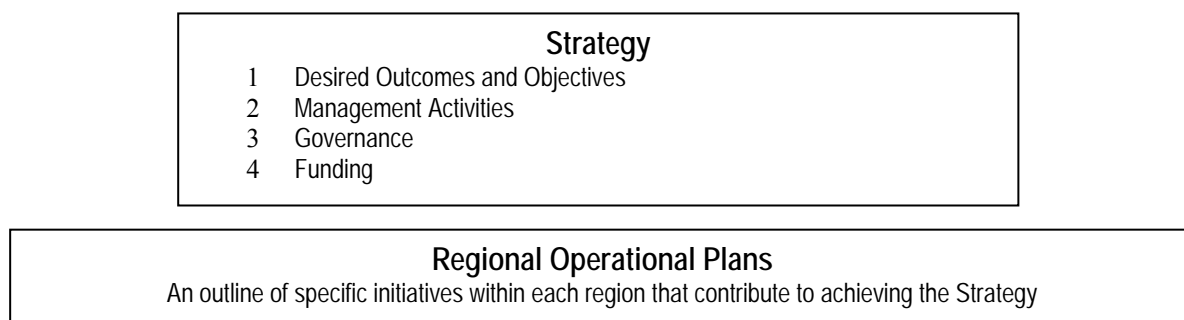
3. Didymo, a freshwater alga, was first detected in New Zealand in October 2004. Didymo is likely to have considerable impacts on New Zealand's freshwater environment by affecting recreational, biodiversity, cultural and economic values. An economic impact assessment estimated the potential impacts of didymo, in the absence of Government intervention, at between \$58 and \$285 million over the eight years from 2004/05 to 2011/12. This type of assessment is a tool that provides a general picture of the economic impacts to guide decision-makers on appropriate management actions. An economic impact assessment is not intended to reflect the exact impacts on all sectors.
4. MAF Biosecurity New Zealand, with the support of others, has led the response to the didymo incursion into New Zealand. The focus of management has been on freshwater users taking personal responsibility for reducing the risk of spread, collecting information on the impacts, and identifying tools to support management decisions and responses. This focus was determined by the practicalities of managing a freshwater incursion of an organism that is not always visible to freshwater users and the general lack of information on impacts and response options.
5. The future long-term programme will continue to focus on changing behaviour and the personal responsibility of users through a strong social marketing programme.
6. The social marketing aspects of the overall programme will:
 - use research to identify different audiences and understand their behaviours, beliefs and the barriers to changing behaviour;
 - consider strategies to address different audience needs;
 - communicate consistent messages often, and through many different channels;
 - connect with audiences through the communities and social structures they are part of;
 - work in partnerships with other organisations and programmes; and
 - seek feedback through monitoring and evaluation, and evolve to reflect feedback received.
7. Initiatives within the long-term didymo programme will, where appropriate and beneficial, move away from focusing specifically on didymo and towards aquatic pests in general. Initiatives within the programme will be aligned and incorporated with existing freshwater activities, such as State of the Environment monitoring and/or build on other initiatives such as the National Aquatic Pest Awareness Group.
8. A partnership with interested parties, rather than a MAF Biosecurity New Zealand led programme, is considered the most effective long-term approach to managing didymo as it:

- increases the likelihood of the programme achieving its objectives by:
 - developing agreed objectives with users of the freshwater environment;
 - providing time for partners to develop capacity to participate;
 - utilises the partners’ knowledge, skills and resources that are required for different components of the programme;
 - ensures the programme is cost effective by building on synergies with existing programmes within agencies; and
 - ensures the programme is more sustainable over time as it is less vulnerable to changes in individual agency priorities.
9. Six partner groups have been identified:
- MAF Biosecurity New Zealand;
 - Department of Conservation (DOC);
 - Regional councils;
 - Māori;
 - Fish and Game New Zealand (F&G); and
 - affected industry e.g. power generators, freshwater operators, tourism operators, irrigators and aquaculturalists.
10. As part of the development and implementation of the long-term programme, partners will need to actively seek financial and/or in kind support through their existing funding and planning processes. In kind support of the different elements of the programme could be through expanding the scope of existing activities or instigating new ones.
11. MAF Biosecurity New Zealand has been allocated on-going funding for the following areas:
- national co-ordination of the didymo long-term programme;
 - leadership and support of an aquatic social marketing programme to facilitate behaviour change in freshwater users; and
 - execution of its regulatory responsibilities, for example, New Zealand’s international border, controlled areas and statutory permissions.
12. MAF Biosecurity New Zealand has also been allocated funding in 2007/08, while partners develop capability, for the following areas:
- completing current research initiatives, including knowledge transfer to partners;
 - providing interim “seed resourcing”¹; and
 - refining practical assessment techniques for partners to use for surveillance and monitoring.
13. It is proposed that other partners will undertake regional and sector based initiatives, including:
- co-ordinating and reviewing of regional initiatives;
 - participating in the aquatic social marketing programme;
 - instigating sector specific research to inform management decisions;
 - implementing on-the-ground activities to support the social marketing programme;
 - surveillance and monitoring as part of existing water quality programmes and in high valued locations; and
 - execution of their regulatory responsibilities.

¹“Seed resourcing” is available to help partners become involved in the programme. It could fund areas where there are set-up costs to becoming involved, such as training or special equipment. It is also available where partners require temporary assistance until their funding becomes available in 2008/09.

14. The timeline for the programme is that partners will have agreed in principle to the long-term programme by June 2007 and that it is fully operative by June 2008. The development and implementation of the programme will continue to progress during this time.
15. The partnership approach will also allow interested parties to become involved once their capability allows. Work is underway to involve potential partners in developing and implementing the long-term management programme. Other parties may be identified (or identify themselves) and become involved as the partnership develops. Partners will need to provide on-going commitment to the programme to ensure its success.

Components of the Programme



16. This document focuses on the Strategy components of the programme, from which the regional operational plans will be guided.

Strategy

DESIRED OUTCOME AND OBJECTIVES

Outcome

17. The desired outcome for this programme is didymo specific. However, to achieve this outcome both generic and didymo specific initiatives will need to be undertaken. The outcome is that:

The impacts of didymo are reduced by organisations and individuals with a freshwater interest working collectively in areas where they can be most effective.

Objectives

18. The following generic and didymo specific objectives provide direction for achieving the stated outcome:
- slow the spread of didymo and other freshwater pests throughout New Zealand;
 - protect valued sites and at risk species;
 - mitigate impacts of didymo on affected sectors; and
 - maintain the North Island free of didymo for as long as possible.
19. The objectives will need to be periodically assessed to ensure they remain relevant and realistic as didymo spreads to other locations and information on the effectiveness of different control and mitigation methods become available. A strategy and contingency plan have been developed to use if didymo is detected in the North Island, which will direct management actions.
20. The activities undertaken to support some of the above objectives have clear benefits in reducing the impacts of all freshwater pests. For example, the social marketing programme designed to change freshwater users' behaviours is likely to play a significant role in slowing the spread of all freshwater pests. In contrast, the activities to achieve other objectives will need to be specific to didymo, for example, efforts to mitigate the impacts of didymo on particular sectors.
21. Aligning initiatives with generic freshwater programmes, where appropriate, will ensure the programme's continued relevance by establishing the systems and behaviours necessary to safeguard our freshwater systems from both current and future aquatic pests.

MANAGEMENT ACTIVITIES

22. A number of activities are needed to achieve the objectives of the didymo long-term management programme. These activities fall into the broad categories below.
- Co-ordination and Leadership
 - Research
 - Surveillance and Monitoring
 - Social Marketing
 - Regulatory
 - Control
 - Review
23. Responsibility for particular activities in each category is outlined in the following sections of the paper. The allocation of responsibility is based on discussions at the partner workshops (June – September 2006) and partner representative workshops (December 2006 – February 2007). The following criteria were also considered²:
- legal accountability;
 - the nature of any regulatory powers required;
 - whether national leadership or co-ordination is likely to add net benefit;
 - incentives to take action³;
 - synergies with existing programmes and structures³;
 - public versus private good; and
 - distribution of beneficiaries and exacerbators.
24. Responsibilities for activities have been allocated to either “all partners”, “regional partners” or specific individual partners. “Regional partners” are those organisations with regional capability and includes all partners except MAF Biosecurity New Zealand. Different partners will be able to participate in particular activities to a greater extent than others, depending on their capability. Further detail on the activities (and who is responsible for them) in each region will be drawn out in the regional operational plans as they are developed.

Co-ordination and Leadership

Purpose

25. To ensure the programme is implemented effectively and efficiently by partners working towards common outcomes and objectives.

Co-ordination and Leadership Activities

26. Co-ordinating planning, strategy development and operational activities both nationally and regionally will ensure the different activities of the programme are consistent and the best use is made of information and resources. In addition, central and regional government is likely to be more supportive of programmes where different sectors are working together to achieve agreed outcomes and objectives.

² McGuinness, C and Harrison A. (August 2006). *Interim Roles and Responsibilities* (National programmes that MAF Biosecurity New Zealand will lead or co-ordinate) – paper to the Biosecurity Coordination Group. The Biosecurity Coordination Group consists of regional council biosecurity managers and nominees from MAF, Ministry of Health, Ministry of Fisheries, Land Information New Zealand and Department of Conservation.

³ These points are additional to those outlined in the McGuinness and Harrison paper.

National co-ordination

27. MAF Biosecurity New Zealand will provide national co-ordination of the overall long-term management programme, including supporting the national governance arrangements needed for the partnership. National co-ordination will ensure partners are involved in determining the direction of the programme, and that elements of the programme are consistently adapted as the result of new developments. It will also ensure new information can be readily shared between partners.
28. Key elements to support the national co-ordination role include:
 - developing and supporting a Steering Group of partner representatives;
 - identifying and developing systems and processes that facilitate information sharing between partners e.g. workshops, databases, and discussion forums; and
 - developing processes to facilitate periodic review of the programme.
29. In addition to the co-ordination activities noted above, MAF Biosecurity New Zealand will lead the development of an aquatic social marketing programme – a significant element of the overall didymo long-term programme. The aquatic social marketing programme will lead on from the initiatives undertaken as part of the National Aquatic Pest Awareness Group and like that group will operate as a “stand alone” programme involving all partners in direction setting and implementation. However, the aquatic social marketing programme will differ in its approach and the scope of activities to that of the National Aquatic Pest Awareness Group programme. The focus will be on changing the behaviour of those using freshwater areas to decrease the risk of spreading didymo and other pests.
30. A key role of the partner Steering Group will be to assess the outcomes of the aquatic social marketing programme to ensure that it is achieving the necessary behaviour changes to decrease the risk of spreading didymo.

Regional co-ordination

31. Regional co-ordination is also critical to ensure consistent direction and good information flow between partners at a local level. Close regional co-operation will help identify operational initiatives where collaboration would be beneficial, such as activities to protect regionally significant areas and species.
32. Regional partners will take the lead for regional co-ordination. MAF Biosecurity New Zealand has worked with regional partners to help develop regional groups. The systems and processes developed at a national level to set the programme’s direction and share information will also help support regional co-ordination.
33. The actions outlined in the following table are the co-ordination and leadership elements of the different activities. These actions will be teased out further in the regional operational plans and terms of reference for the partner Steering Group.

Co-ordination and Leadership Actions

Action	Proposed Responsibility
Partnership management	
<ul style="list-style-type: none"> • co-ordinating the national didymo long-term programme <ul style="list-style-type: none"> – develop and support partner Steering Group – facilitate information exchange between partners by developing appropriate systems and process – undertake periodic review of the programme – assess direction/success of the overall didymo programme • participating in the didymo long-term programme • participate in the partner Steering Group (either directly or via representative) • share information on programmes, including achievements and 'lessons learnt' 	<p>MAF Biosecurity New Zealand MAF Biosecurity New Zealand MAF Biosecurity New Zealand</p> <p>MAF Biosecurity New Zealand Partner Steering Group</p> <p>All partners All partners</p>
Research	
<ul style="list-style-type: none"> • determining research priorities across sectors and regions for promotion to funding providers 	Partner Steering Group
Social marketing	
<ul style="list-style-type: none"> • leading and supporting the aquatic social marketing programme <ul style="list-style-type: none"> – co-ordinate the overall aquatic social marketing programme – co-ordinate communications and information sharing between the programme's management partners to support the overall social marketing programme and ensure regional co-ordination and consistency for social marketing activities – co-ordinate a development programme for the programme's management partners – lead risk and issues management activity to support the social marketing programme – lead relationship management and communications with national organisations outside of the programme's key management partners • participating in the aquatic social marketing programme <ul style="list-style-type: none"> – implement regional programmes • ensuring the aquatic social marketing programme is achieving didymo long-term programme's outcomes and objectives 	<p>MAF Biosecurity New Zealand MAF Biosecurity New Zealand MAF Biosecurity New Zealand</p> <p>MAF Biosecurity New Zealand</p> <p>MAF Biosecurity New Zealand</p> <p>MAF Biosecurity New Zealand</p> <p>Regional partners Partner Steering Group</p>
Operational activities	
<ul style="list-style-type: none"> • co-ordinating and reviewing regional initiatives within regions and sectors 	Regional partners

Research

Purpose

34. To develop “management tools” that partners can practically apply to slow the spread and reduce the impact of didymo, and protect valued sites.

Research Activities

35. Extensive research has been undertaken to identify ways to try and slow the spread or reduce impacts of didymo⁴. This research was undertaken to:
- develop control technologies for both decontaminating risk goods and killing didymo in natural environments;
 - develop improved methods to determine actual and predicted distribution to target social marketing, surveillance, control and high value site activities; and
 - assess the impacts of didymo.
36. The above research has provided the base information needed to develop practical and applicable “management tools” that will support the actions of partners to slow the spread and reduce the impact of didymo. This research is in addition to research outlined in the Surveillance and Monitoring, and Social Marketing sections of this paper.

⁴ MAF Biosecurity New Zealand funded research can be found in the didymo section of its website: www.biosecurity.govt.nz.

37. The future focus of the didymo research programme is three-fold:
- to clearly disseminate the outcomes of research work undertaken to date to ensure future research can utilise and benefit from research undertaken in the current programme;
 - to undertake sector-specific research focused on understanding impacts on sectors, and management options for these impacts; and
 - to support partners in undertaking their research.
38. There is a range of funding bodies that could potentially fund didymo related research. Clear research and long-term didymo programmes, combined with collaboration and support from partners, are more likely to achieve successful access and efficient use of these types of funding streams.
39. The partner Steering Group will collate and identify priority research areas across the different sectors to provide guidance to the different partners when they are developing their research programmes and when endorsing partners' research initiatives. Identifying priorities will not prevent partners progressing their own initiatives, but simply serve as a guide. The collation and consideration of research initiatives by the partner Steering Group will also provide a good opportunity to identify synergies between research needs and programmes.

Research Actions

Action	Proposed Responsibility
Information dissemination	
• science seminar for partners on findings of 06/07 research programme	MAF Biosecurity New Zealand
• regular partner updates on research outcomes (telephone/web)	MAF Biosecurity New Zealand
• training on sampling and detection techniques	MAF Biosecurity New Zealand
On-going management	
• investigate applicability of chelated copper tool	MAF Biosecurity New Zealand
• undertake research on impacts on core business sectors and identify management options	Regional partners
Supporting others' research	
• document and disseminate information on funding avenues for didymo related research	MAF Biosecurity New Zealand
• endorse partners' priority proposals to funding bodies, where appropriate	All partners
• collaborate between partners on research programmes	All partners

Surveillance and Monitoring

Purpose

40. To inform management actions by measuring the spread and abundance of didymo, and by monitoring natural factors in didymo affected systems.

Surveillance and Monitoring Activities

41. Both surveillance and monitoring will be an integral part of the information needed to determine the effectiveness of the programme and the on-going impacts of didymo.
42. Surveillance to determine the spread of didymo will inform where to undertake management and who to involve. For example, if didymo is found in a new area, different user groups may need to be specifically targeted or involved in management efforts.
43. Monitoring the abundance of didymo in an area, once it has been detected during surveillance activities, will provide information on didymo survival in particular

environments. In addition, monitoring natural factors promoting blooms or reducing biomass may help identify ways to reduce the impact of didymo on freshwater users' activities. For example, scheduling recreational events or consenting water abstraction may be more appropriate in reaches known for low biomass levels because of these natural factors.

44. MAF Biosecurity New Zealand has undertaken regular national surveys for didymo. From June 2007 the extent of such activities is likely to decrease. Instead, national coverage will be achieved by accumulating surveillance and monitoring information collected as:
 - part of partners' existing water quality programmes;
 - active surveillance in high value sites; and
 - feedback from those operating and using affected freshwater systems.
45. Existing programmes include State of the Environment monitoring undertaken by water quality personnel within local government and F&G drift dive surveys. DOC is assessing high value sites, and conducting risk assessments and operational plans for these areas.
46. Utilising the above avenues to collect surveillance and monitoring information will ensure an efficient use of resources, increase the likelihood of these activities continuing beyond June 2008, and ensure the information is more available to local decision makers.
47. Considerable work has been undertaken to develop didymo surveillance techniques that will be able to be integrated into existing surveillance and monitoring programmes. Similar methods need to be refined and communicated on how to assess changes in abundance of didymo over time as part of existing official surveillance and monitoring programmes, and by those that work and play in affected waters.

Surveillance and Monitoring Actions

Action	Proposed Responsibility
Provide training on surveillance and monitoring techniques, how and when to use the different techniques and how to interpret the results	MAF Biosecurity New Zealand
Refine tool for practical assessment of didymo abundance for use as part of existing official monitoring programmes	MAF Biosecurity New Zealand
Investigate system for other sector groups/individuals to assess abundance over time	Regional partners
Produce sampling tool kits	All partners
National database of surveillance activities and results	
<ul style="list-style-type: none"> • develop • populate and analyse 	MAF Biosecurity New Zealand
Undertake surveillance and monitoring as part of existing water quality programmes	All partners
Undertake surveillance and monitoring while operating in affected freshwater systems	Regional partners
Undertake risk assessments and develop operational plans for high value conservation areas	All partners
Detection of didymo	DOC
<ul style="list-style-type: none"> • develop identification protocols • analyse samples (via approved protocol) 	MAF Biosecurity New Zealand
	All partners

Social Marketing

Purpose

48. To change the behaviour of freshwater users to slow the spread of didymo and other freshwater pests throughout New Zealand.

Social Marketing Activities

49. The focus of the social marketing activities will be achieving behaviour change in users of freshwater systems – having users “Check, Clean, Dry” when moving between waterways.
50. To achieve behaviour change it is important that audiences:
 - know what didymo is and how it can impact on them personally;
 - know what they can do to reduce risk;
 - believe they can make a positive difference;
 - understand the personal benefits of taking action.
51. Research is needed to identify the different audiences and to understand their behaviours, beliefs and the barriers to changing their behaviour. Different strategies will be developed to address those barriers and a core programme developed outlining the messages the programme will use for each different audience. The work that the National Aquatic Pest Awareness Group has already undertaken to identify hurdles and opportunities and the evaluation of the didymo 2006/07 summer programme will also be considered when developing the core programme.
52. The social marketing programme needs to reach audiences in different ways to ensure they hear the campaign messages repeatedly, and through a variety of different sources. This requires a programme that is much broader than an advertising campaign alone and uses a range of communication and engagement strategies.
53. The activities within the programme will generally not differentiate between high value sites and other freshwater systems or between affected and unaffected sites. Some partners may want to promote the need to take additional care in particular areas, avoid them altogether or promote the values at risk if people do not take action. When establishing more stringent messages around an area it is important that these do not undermine the general message that it is vital to “Check, Clean, Dry” between all freshwater systems to reduce the risk of spreading aquatic pests.
54. The programme needs to connect with audiences through the communities and social structures they are part of, through community-led initiatives, and by using national and local relationships. The long-term management partnership between MAF Biosecurity New Zealand, DOC, regional councils, Māori, F&G and affected industry will be a fundamental platform for this community engagement.
55. The partnership also needs to develop relationships with other national organisations (such as boating associations and the tourism sector) and at the community level with, for example, schools, boating clubs and businesses to give communities ownership of the programme.
56. Development of the new aquatic social marketing programme will be led by MAF Biosecurity New Zealand and will rely heavily on input from all partners.
57. MAF Biosecurity New Zealand will support the community-based approach through regional grants, a sector development programme (based on partners’ training needs), and shared resources and templates. These resources and templates may be developed nationally, to be used locally, or developed by and shared between regional partners. This will ensure consistency between national and regional activities, and those led by different partners.

58. Processes for information-sharing between partners will ensure that:

- all of the threads of the campaign are pulled together;
- effort is not duplicated;
- experience and knowledge is shared;
- approaches are consistent; and
- social marketing activities are based on good information and best-practice.

59. The aquatic social marketing programme will be developed as a “stand alone” programme outside of the other activities within the didymo programme. However, the didymo partner Steering Group will maintain a watching brief of activities in the social marketing programme to ensure that it is achieving the required behaviour changes. The social marketing programme will be led separately because, while there is overlap in the objectives and activities, the scope of both the didymo and social marketing programmes is wider than solely changing behaviour to reduce the impact of didymo.

Social Marketing Actions

Action	Proposed Responsibility
Baseline research ⁵	MAF Biosecurity New Zealand
Formative research ⁶	
• develop research proposal	MAF Biosecurity New Zealand
• approve proposal	Social Marketing Programme
• undertake research	MAF Biosecurity New Zealand
Campaign strategy	
• develop strategy and campaign plan	MAF Biosecurity New Zealand
• approve campaign plan	Social Marketing Programme
Creative element development to support campaign	
• scope and develop creative elements	MAF Biosecurity New Zealand
• approve creative elements	Social Marketing Programme
• execute creative elements	MAF Biosecurity New Zealand
Creative element testing	
• audience testing	MAF Biosecurity New Zealand
Creative element adjustment	
• identify adjustments and adapt if necessary	MAF Biosecurity New Zealand
• approve creative elements	Social Marketing Programme
Implementation	
• develop regional programme plans (for specific funding)	Regional partners
• assess regional programmes (for specific funding)	MAF Biosecurity New Zealand
• approve regional programmes (for specific funding)	Social Marketing Programme
• implement regional programmes	Regional partners
• develop core programme document (to establish shared messages and communications processes)	MAF Biosecurity New Zealand
• develop collateral, resources, templates	MAF Biosecurity New Zealand
• distribute collateral, resources, templates	Regional partners
• develop national media management and advertising campaign elements	MAF Biosecurity New Zealand
• develop processes for programme management partner communications and information sharing	MAF Biosecurity New Zealand
• develop and implement social marketing development programme for programme partners	MAF Biosecurity New Zealand
• develop and manage national external relationships (i.e. national organisations such as boating associations, the tourism sector)	MAF Biosecurity New Zealand
• develop community partnerships/community outreach and support community-led activities	Regional partners
• website	MAF Biosecurity New Zealand

⁵ Quantitative Research – To provide baseline data to enable measurement of the campaign’s effectiveness at its conclusion

⁶ Qualitative Research – To determine audience motivators/barriers/drivers to performance. Includes psycho-behavioural analysis

60. MAF Biosecurity New Zealand will seek independent expertise to undertake the research and creative elements outlined in the above table.

Regulatory

Purpose

61. To impose regulatory measures, where necessary, to slow the spread of didymo and protect high value areas and species, including the North Island.

Regulatory Activities

62. The long-term programme is primarily being implemented through non-regulatory measures. The focus of the programme is for users to take personal responsibility and change their behaviour to reduce the risk of spreading didymo from one water system to another. The programme does not aim to differentiate between high value sites and other freshwater systems as any could be affected.
63. In some circumstances partners may consider additional regulatory tools are required to protect areas of significance to them or their constituents. Regulatory controls could consist of prohibiting people from accessing an area or determining how and when an activity or area can be undertaken or accessed.
64. There are a range of potential regulatory tools under the Biosecurity Act 1993, Conservation Act 1987, National Parks Act 1980, Reserves Act 1977 and Resource Management Act 1991 that provide additional measures to protect valued sites from didymo. For example, DOC and Fish & Game used the Conservation Act, Reserves Act and National Parks Act to protect parts of Fiordland and Puppu Springs. Regional Councils could also include conditions on resource consents under the Resource Management Act to mitigate the adverse impacts of an activity or on an area.
65. It is the responsibility of the individual operator to ensure they have all the necessary legal approvals to undertake their activity. A person undertaking an activity may be legally bound by a range of statutes. For example, an irrigator may have resource consent to divert or take water but may also require permission under the Biosecurity Act if they are knowingly spreading an unwanted organism.
66. When a regulatory authority is considering imposing additional regulatory measures it is important the measures considered significantly reduce the risk, are equitable across users in that area, are credible (i.e. unenforceable measures are likely to lack credibility) and that the impacts of such measures have been considered.

⁷ MAF Biosecurity New Zealand manages 0800 services but all partners respond to the issues raised by call.

Regulatory Actions

Action	Proposed Responsibility
To monitor and enforce NZ border controls (e.g. import health standards/quarantine officers)	MAF Biosecurity New Zealand
To protect high value sites/slow spread	
<ul style="list-style-type: none"> • Conservation Act <ul style="list-style-type: none"> – fishing licences (e.g. back country permits) – fish transfers • National Parks Act <ul style="list-style-type: none"> – Concessions (e.g. changes to requirements for concessionaires operating in or near high risk or valued freshwater areas) • Reserves Act (e.g. closure of a reserve where is a dire threat to the environment) • Biosecurity Act <ul style="list-style-type: none"> – controlled areas – established (e.g. controlled areas can control movement of risk goods into, within or from a specific area) – controlled areas - managed <ul style="list-style-type: none"> – regional pest management strategies (e.g. rules under these strategies can specify treatments and procedures to assist with preventing spread) – unwanted organism status (permissions) <ul style="list-style-type: none"> – develop proposal/application – consider applications (approve or decline) • Resource Management Act (e.g. the placement of conditions on resource consents) 	F&G DOC and Ministry of Fisheries DOC DOC MAF Biosecurity New Zealand and DOC MAF Biosecurity New Zealand, DOC, F&G and regional councils Regional councils Industry/applicant MAF Biosecurity New Zealand Regional councils
Compliance and/or enforcement personnel	All partners depending on legislation used

Control

Purpose

67. To use established methods to treat contaminated goods and affected freshwater systems.

Control Activities

68. Methods have been developed to treat goods that have been used in affected freshwater systems. There are a range of control initiatives that could be undertaken to utilise these methods, including standard operating procedures for staff and contractors, mitigation methods imposed as part of regulatory approvals or other permissions, or cleaning stations for the general public. When establishing cleaning stations, it is important to consider whether they can maintain the sites effectively. Ineffective cleaning stations could undermine management objectives.

69. There is currently no established method to control didymo within affected freshwater systems. However, MAF Biosecurity New Zealand has commissioned considerable research into a chelated copper control tool that could possibly be used to control didymo within freshwater systems.

70. Control initiatives will primarily be instigated at a regional level but supported at a national level through:

- research on effective management tools;
- transfer of information on control technologies;
- transfer of information on potential impacts; and
- transfer of information on the effectiveness and practicality of the programme as an outcome of programme review.

Control Actions

Action	Proposed Responsibility
Decontamination/mitigation procedures	
<ul style="list-style-type: none">develop and implement standard operating procedures for staff and contractors	All partners
<ul style="list-style-type: none">promote decontamination procedures to freshwater users as normal part of business	All partners
<ul style="list-style-type: none">impose decontamination/mitigation procedures as part of regulatory approvals or other permissions	All partners
Cleaning stations	
<ul style="list-style-type: none">establish general decontamination sites	Regional partners, individual users
<ul style="list-style-type: none">establish procedure around specific events	Event organisers
Undertake control of didymo within freshwater systems	Currently no options

Review

Purpose

71. To determine the effectiveness of the long-term management programme in achieving its stated objectives and assess the continued relevance of the objectives.

Review Activities

72. Review should be an integral and regular part of any programme. Review provides an opportunity to:
- determine the effectiveness of the programme at achieving overall long-term management objectives;
 - determine whether partners are contributing to the different aspects of the programme as agreed;
 - identify opportunities to improve the effectiveness of the project; and
 - revise or revoke the project, if required.
73. It is critical that lessons learnt during project review processes are shared with partners and other groups. Similar projects are likely to be undertaken by a range of partners in different regions of New Zealand.
74. Timeframes for review of the didymo long-term management programme will be established as part of the governance arrangements. The types of events that may lead to an immediate review could include confirmation of an effective in-water control tool, discovery of didymo in the North Island, dysfunctional governance arrangements or no change in user behaviour as a result of the social marketing programme.
75. In addition to review of the overall programme, timeframes for review of specific elements of the programme should be established at the start of each project. These timeframes are likely to be project specific.

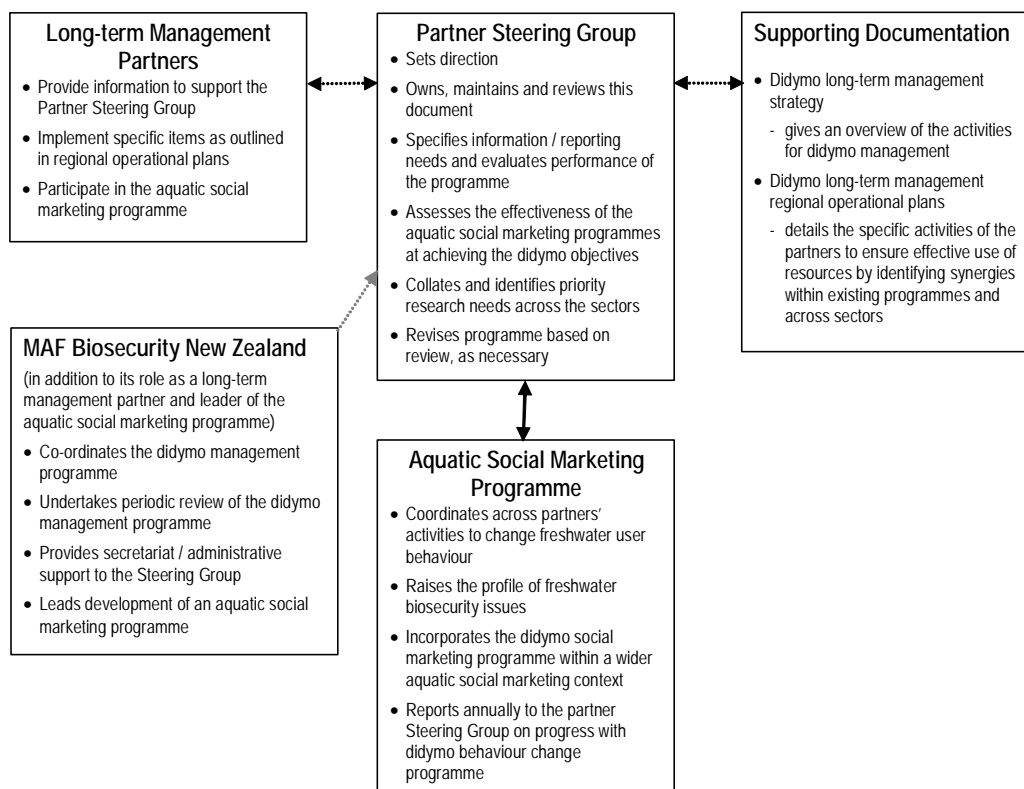
Review Actions

Action	Proposed Responsibility
Periodic review of long-term programme	MAF Biosecurity New Zealand
Revise overall programme outcomes and objectives based on review, as required	Partner Steering Group
Incorporate review processes within individual projects	All partners
Revise projects as required	All partners
Share information, with partners, on the outcomes of reviews	All partners

GOVERNANCE

76. A voluntary approach based on this document is the preferred option for national governance of the didymo programme because it:
- provides sufficient clarity of roles to ensure an effective programme can be developed and implemented;
 - is easy to put in place and change if circumstances change; and
 - is consistent with the personal responsibility approach of the social marketing programme.
77. This document could be utilised to develop a national pest management strategy if the programme required a regulatory framework in the future. More regulatory arrangements may be considered necessary if:
- partners not participating in the programme start to undermine the objectives being achieved;
 - tools only available within a pest management framework are required to undertake the activities proposed in the programme; or
 - the need arises to make funding of different aspects of the programme compulsory.
78. A Steering Group of representatives from the different regions will be established to provide cross-sector governance and co-ordinate the programme as outlined in the Co-ordination and Leadership section of this paper. The partner Steering Group will work alongside the wider partner organisations and the forum established to implement the aquatic social marketing programme to ensure the outcome and objectives for didymo long-term management are achieved. Figure 1 provides an overview of the participants and documentation supporting the implementation of the didymo programme and their interactions.

Figure 1: Overview of the participants and documentation supporting the implementation of the didymo programme



FUNDING

79. For the programme to be successful all partners will need to contribute to the didymo long-term management programme either financially or in kind (as part of new or established processes). As part of the development and implementation of the long-term programme all partners will need to actively seek financial and/or operational support through their existing funding and planning processes.
80. Both central and regional government is likely to be more supportive of the programme when there is clear collaboration and contribution by all partners to achieve the agreed outcome and objectives for didymo management.
81. MAF Biosecurity New Zealand has been allocated on-going funding for:
- national co-ordination of the didymo long-term management programme, including:
 - establish and support the partner Steering Group;
 - develop systems and processes to allow information exchange between partners, for example, science forums and a surveillance database; and
 - periodic review of the overall programme.
 - leadership and support of the aquatic social marketing programme to facilitate behaviour change in freshwater users, including:
 - co-ordinating the overall social marketing programme;
 - research;
 - developing an overall strategy;
 - developing the creative elements of the campaign;
 - (part funding) of implementing the social marketing programme; and
 - evaluating the social marketing programme.
 - executing its regulatory responsibilities, for example, New Zealand international border, controlled areas and statutory permissions.
82. In the interim, while partners develop capability, MAF Biosecurity New Zealand has been allocated funding for the following areas:
- completing the current research initiatives by:
 - sharing information on research outcomes; and
 - assessing outcomes from the chelated copper programme and determining the appropriate future direction.
 - providing interim “seed resourcing” to allow partners time to establish appropriate funding streams through development phase 2007/08; and
 - refining practical assessment techniques for partners to use for surveillance and monitoring.
83. “Seed resourcing” could be direct funding, training, or collateral. Activities that would potentially be eligible for “seed money” include those that:
- build expertise within a region or agency that is fundamental for long-term involvement e.g. training;
 - allow for purchase of tools necessary for future involvement in didymo management e.g. surveillance kits; and
 - require temporary funding for 2007/08 until regional partner funding becomes available in 2008/09 and onwards – evidence would need to be shown that efforts were being made to secure long-term funding e.g. development of plans and proposals.

84. Regional partners must be prepared to contribute funding or in kind contributions to support the programme. The roles identified in the management activities proposed earlier in the paper provide an indication of where costs might fall, including:
- co-ordinating and reviewing regional initiatives;
 - participating in the aquatic social marketing programme;
 - instigating sector specific research to inform management decisions;
 - implementing on-the-ground activities to support the social marketing programme;
 - surveillance and monitoring as part of existing water quality programmes and in high valued locations; and
 - executing their regulatory responsibilities.

Regional Operational Plans

85. The regional operational plans will include a compilation of regionally led initiatives being undertaken to reduce the spread of didymo either specifically or generically. Pulling these initiatives together will help ensure the programme is effectively co-ordinated across partners within a region by:
- documenting the scope and magnitude of proposed and existing programmes;
 - identifying potential synergies between programmes; and
 - identifying opportunities to share information and lessons learnt.
86. Regional operational plans will be developed by regional partners within their regional forums. Components of the plan will include:
- regional co-ordination initiatives;
 - regional social marketing programmes, including on-the-ground personnel;
 - programmes to protect high value sites or species (e.g. DOC and F&G's Fiordland programme);
 - regional monitoring and surveillance programmes;
 - research needs for the region and/or sectors; and
 - processes for evaluating activities and reporting to the partner Steering Group.