



FRDC

FISHERIES RESEARCH &
DEVELOPMENT CORPORATION

Initial Development of an Australian Standard for Aquatic Plant Names

2017-212



Alan Snow Consulting

Alan J Snow

25 January 2021

FRDC Project No 2017-212

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FRDC Project No 2017-212

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In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

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Acknowledgments

The Aquatic Plants Standards Reference Body have been instrumental to the success of this project. All members have actively participated in the industry workshops and provided valuable guidance in the final development of the Australian Standard for Aquatic Plant Names (AS 5301).

The Aquatic Plant Names Standards Reference Body members for the duration of this project were:

Name	Position
Gordon Yearsley	Independent Chair
Karen Gowlett-Holmes	Codes for Australian Aquatic Biota (CAAB) Management
James Ashmore	Industry Representative
Pia Winberg	Industry Representative
Russell Glover	Industry Representative
Cassandra Austin	Hospitality Industry Representative
Alecia Bellgrove	Technical Representative Academia
John Huisman	Technical Representative Academia
Meaghan Dodd	Project Manager
Alan Snow	Project Manager

Meaghan Dodd took over as manager of the project mid-term through the project and has been instrumental on keeping the project on track. She has developed an invaluable list of contacts through this work which will keep the ongoing development of the standard in good hands.

The author would also like to acknowledge the valuable input provided by Patrick Hone and Nicole Stubing during the industry workshops and meetings of the SRB where they provided highly valuable input.

The input provided by all respondents through three rounds of public consultation has also been of invaluable assistance to the SRB in their final deliberations as to the content of the standard.

The members of the steering committee that assisted in the formative stages of this project should be commended. These members were: Duncan Farquhar, Program Manager, RIRDS, Karen Gowlett-Holmes, CSIRO custodian of the aquatic plants in the CAAB database, and Gordon (Gus) Yearsley, long term member of the Fish Names Committee and experienced at standards development.

Abbreviations

TERM	DEFINITION
AP-SRB	Aquatic Plants Standards Reference Body
FNC	Fish Names Committee
SRB	Standards Reference Body
SDAC	Standards Development and Accreditation Committee
SDO	Standards Development Organisation



Figure 1 The First Industry Meeting in Hobart

Executive Summary

This project has started as a concept and has culminated in the publishing of AS 5301- the Australian Standard for Aquatic Plant Names. This is recognised as being a “world’s first” and has resulted in an industry agreed list of names at the start of this highly important developing industry.

Background

Commercial trade in aquatic plants is an important and rapidly emerging industry, and the industry has proactively developed a list of standard names for all current commercial, and potentially commercial, aquatic plant species.

At Seafood Directions 2017, it was reported that world trade in edible algae is expected to soon be in the order of \$5 billion annually. The FRDC had recently noted that an increasing volume of aquatic plant names is being harvested for human consumption, and there is little or no agreement on the common names used.

FRDC management sought input from the existing Fish Names Committee at FNC meeting 32 as to how to address the naming of edible algae and other similar species with a possible goal of including a category in the Fish Names Standard to cover aquatic plant names that are sold for human consumption. – including commercially important samphire species.

FNC agreed that it is an important and rapidly emerging issue, and that consideration should be given to developing a list of agreed standard names. FNC also agreed that, should it be asked to develop a standard, it would need to be proactive, and address all commercial and potentially commercial species. This would include species of brown algae, some red algae, and some green algae (select blanket naming for a few of the brown algae and then subsequently deal with occasional species as the need arises).

FNC also made the following observations:

1. The naming protocols developed for fish names were relevant and could be applicable to aquatic plants.
2. The CAAB database already had broad categories to accommodate aquatic plant names, so CAAB Codes probably already exist for most of the relevant species.
3. Candidate names would still need go through the approved FRDC standards development procedures.
4. The development of a new standard would give industry an opportunity to get ahead of the game and develop a standard with approved names before names are developed at random. It also afforded the industry an opportunity to drive the process.

The FNC also considered the options of whether to add edible marine plants to the existing Australian Fish Names Standard or to develop a new Australian Standard for Aquatic Plant Names. The FNC recommended that the latter course of action would be preferable option which was accepted by the FRDC.

Aims / Objectives

The standard defines the standard names to be used in Australia for aquatic plants including algae, microalgae, samphire, etc; and specifies when the standard names are to be used and has been modelled on the existing Australian Fish Names Standard.

The scope of the standard is intentionally broad, but the species that were initially considered in the initial development was limited to edible marine algae, microalgae, and samphire from aquatic environments but species from freshwater environments shall be included in the future as required.

The FRDC has given autonomy for the development and maintenance of the Australian Standard for Aquatic Plant Names to the Aquatic Plants SRB which is underpinned by rigorous standards development policies and procedures that have been developed by the FRDC.

The specific objectives of the Australian Standard for Aquatic Plant Names (the standard) were

1. To assign standard names for current and potential edible aquatic plant names that are sold for human consumption including commercially important algae and samphire species.
2. To achieve stakeholder support for the proposed names
3. To develop an appropriate Australian Standard for aquatic plant names incorporating the agreed list of edible marine algae.

Results / Key findings

- The Australian Standard for Aquatic Plant Names (AS 5301) was published on 27 November 2020.
- The initial release of the standard primarily focussed on group names as these are the names commonly in the marketplace.
- The existing FNC policies and procedures and FRDC experience at developing an Australian Standard have been invaluable to the development of the standard.
- Much of the success of this project can be attributed to the independent chair who has a long association of standards development through the Fish Names Committee and the rigor that the SRB members brought to the process through their belief in the goals of the project.

Recommendations

Further work needs to be conducted in a number of areas:

- The development of a searchable database of aquatic plant names with a front end similar to the fishnames.com.au searchable database.
- The addition of several names that were proposed immediately after the closure of public consultation.
- Further refinement of the Aquatic Plant Names pages on the FRDC Seafood Standards website.

Keywords

Australian Standard for Aquatic Plant Names, AS 5301-2020, Aquatic Plant Names SRB.

Introduction

At Seafood Directions 2017, it was reported that world trade in edible algae is expected to soon be in the order of \$5 billion annually. The FRDC had noted that an increasing volume of aquatic plant names were entering the marketplace and there is little or no agreement on the common names used.

FRDC management sought input from the Fish Names Committee as to how to address the naming of edible algae and other similar species with a possible goal of including a category in the Fish Names Standard to cover aquatic plant names that are sold for human consumption. – including commercially important samphire species.

FNC agreed that it is an important and rapidly emerging issue, and that consideration should be given to developing a list of agreed standard names. FNC also agreed that, should it be asked to develop a standard, it would need to be proactive, and address all commercial and potentially commercial species. This would include species of brown algae, some red algae, and some green algae (select blanket naming for a few of the brown algae and then subsequently deal with occasional species as the need arises).

FNC made the following observations:

1. The naming protocols developed for fish names are relevant and would be applicable to aquatic plants.
2. The CAAB database already has broad categories to accommodate aquatic plant names, so CAAB Codes probably already exist for most of the relevant species.
3. Candidate names would still go through the approved and established FRDC standards development procedures.
4. The development of a new standard would give industry an opportunity to get ahead of the game and develop a standard with approved names before names are developed at random. It also gives industry an opportunity to drive the process.
5. Many of the tropical species used in PNG and the Solomon Islands are found also in tropical Australia and are likely to be used locally even if they are not currently being commercially harvested and sold. This may provide a guide to some species that need to be included in the standard.

The FNC also considered whether it would be best to add edible marine algae to the existing Australian Fish Names Standard or to develop a new Australian Standard for aquatic plant names and algae. The FNC considered that the latter course of action would be preferable.

FRDC's scope of accreditation with Standards Australia is "To develop Australian Standards in the fields of terminology, sustainability, and operational practices in the fishing and aquaculture industry." The development of an Australian Standard for aquatic plant names was therefore within the FRDC's existing scope of accreditation.

The key milestones in the development of this project have been:

Date	Action
26 September 2017	FRDC had asked the FNC to consider adding aquatic plants to the existing Australian Fish Names Standard or the development of an Australian Standard for Aquatic Plants FNC considered that it was important but recommended that it should be a standard in its own right
February 2018	Project proposal to develop an Australian Standard for Aquatic Plant Names developed and approved by FRDC

Date	Action
February 2018	The Aquatic Plants Project Registration and Development Plan was developed and approved by the FRDC. And subsequently sent to Standards Australia
6 March 2018	“FRDC Project 2017-212: Initial Development of an Australian Standard for aquatic plant names” approved by the FRDC
March 2018	<p>Formation of an ad hoc steering committee to oversee the progress of the development formed Participants were:</p> <ul style="list-style-type: none"> • Duncan Farquhar RIRDC • Nicole Stubing, FRDC • Karen Gowlett-Holmes, CSIRO • Gordon (Gus) Yearsley • Alan Snow – Project Manager
16 July 2018 25 July 2018 7 August 2018	Meetings of the Steering committee were held to discuss and refine the list of candidate names for consideration by the first stakeholder workshop
6 September 2018	<p>The first Industry Workshop was held in Hobart with key stakeholders funded to attend.</p> <p>The meeting report was distributed widely after the workshop for comment from stakeholders.</p> <p>Meeting report</p>
4 May 2019	<p>Three months public consultation on the candidate names commenced using Google Forms (completed 22 July 2019)</p> <p>Feedback was collated for the second industry workshop</p>
15 August 2019	<p>The second industry workshop was conducted at the National Herbarium of New South Wales in Sydney</p> <p>The meeting agreed to a list of names, which were incorporated into the Draft of AS 5301 the Australian Standard for Aquatic Plant Names</p> <p>Some names required further consideration.</p> <p>The meeting report was distributed widely after the workshop for comment from stakeholders.</p> <p>Meeting report</p> <p>Nominations for the SRB and the development of a draft Australian Standard were also considered at this meeting</p>
8 April 2020	Appointment of the Aquatic Plant Names Standards Reference Body
12 May 2020	<p>The Aquatic Plants SRB Meeting 1 (AP-SRB 1) was held to review the candidate names from the second industry workshop and the names that required further consideration.</p> <p>AP-SRB-1 Minutes</p>
18 May 2020	<p>A Working Party of the SRB met to give further consideration to the names to be included and recommended standard names.</p> <p>Working Party recommendations</p>

Date	Action
26 May 2020	<p>Aquatic Plants SRB Meeting 2 was held to review the recommendations from the WP and to approve the Draft for Consultation of AS 5301-2020 the Australian Standard for Aquatic Plant Names to proceed to public consultation.</p> <p>AP-SRB-2 Minutes</p>
4 June 2020	<p>Commencement of the second round of public consultation on the candidate names and the Consultation Draft of the Australian Standard using Google Forms</p>
15 August 2020	<p>Completion of public consultation and collation of the feedback for consideration by the Aquatic Plants SRB.</p>
26 August 2020	<p>Aquatic Plants SRB Meeting 3 held to consider feedback received through public consultation and recommended AS 5301-2020 the Australian Standard for Aquatic Plant Names be published.</p>
18 September 2020	<p>The FRDC Board gave final process approval to the Australian Standard for Aquatic Plant Names and agreed that the standard should be published</p>
27 November 2020	<p>AS 5301 The Australian Standard for Aquatic Plant Names was published.</p>

Objectives

The objectives of this project were:

1. To assign standard names for current and potential edible aquatic plant names that are sold for human consumption including commercially important algae and samphire species.
2. To achieve stakeholder support for the proposed names
3. To develop an appropriate Australian Standard for aquatic plant names incorporating the agreed list of edible marine algae.

All objectives have been achieved and the Australian Standard has been published.



Figure 2 Cassandra Austin and Meaghan Dodd

Methods and Results

The process to develop this Australian Standard adhered closely to the FRDC Standards Development Policies and Procedures and resulted in a number of minor changes to the procedures as part of continual improvement.

The essential steps for the development of an Australian Standard are:

1. Determine if there is a need for the proposed standard.
2. Determine that it is within the FRDC Scope of Accreditation
3. Determine if there is sufficient stakeholder support.
4. Assign a Project Manager for the project
5. Determine the net benefit of the project.
6. Prepare a Project Proposal for funding of the project.
7. Prepare a Project Registration and Project Development Plan
8. Contact affected stakeholders to determine the scope of the project and the scope of the aquatic plant names to be considered.
9. Conduct industry meetings.
10. Form the Aquatic Plant Names Standards Reference Body ensuring that all affected stakeholder groups are represented.
11. Develop the draft for consultation version of the Australian Standard including the list of candidate names
12. Conduct public consultation on the draft standard and list of names.
13. Further meeting of the Standards Reference Body following public consultation to discuss any changes and approve the publication draft of the standard including the list of agreed aquatic plant names.
14. Prepare documentation for the FRDC Board recommending that the standard be published and addressing the required criteria for designation as an Australian Standard.
15. Following approval by the FRDC Board, AS 5301 The Australian Standard for Aquatic Plant Names was published, and Standards Australia were provided a copy of the completed standard.

Need for an approved list of aquatic plant names

The Fisheries Research and Development Corporation has recognised that world trade in aquatic plants is rapidly increasing. Edible aquatic plants are and being promoted as an alternative and sustainable source of protein. At Seafood Directions in 2017, it was reported that world trade in edible algae is expected to soon be in the order of \$5 billion annually.

The FRDC had noted that an increasing volume of aquatic plant names were entering the marketplace and there is little or no agreement on the common names used. FRDC as a Standards Australia accredited standards development organisation is responsible for the Australian Fish Names Standard (AFNS) which lists names to be used in Australia for all fish and seafood.

FRDC asked the Fish Names Committee, the SRB responsible for the development and ongoing maintenance of the Australian Fish Names Standard, to consider adding aquatic plants to the AFNS.

The FNC agreed that this was an important growth area and standard names for aquatic plants should be developed. FNC discussed the options of

1. Adding aquatic plant names to the Australian Fish Names Standard.
2. Developing a new Australian Standard for Aquatic Plant Names

Option	Adding aquatic plant names to the Australian Fish Names Standard.	Developing a new Australian Standard for Aquatic Plant Names
Scope	The standard exists but the scope would need to be amended to add aquatic plants.	The standard would be developed as a unique standard with a defined scope.

Option	Adding aquatic plant names to the Australian Fish Names Standard.	Developing a new Australian Standard for Aquatic Plant Names
Project Plan	A project development plan with nett benefit has already been completed.	A project development plan with a nett benefit cost analysis would need to be developed.
Development of the standard (including part 1)	The standard has already been developed and was due to be re-published in 2018	<p>The standard would need to be developed but Part 1 from the AFNS would form the basis for the new standard with only minor amendments to reference plants instead of fish.</p> <p>A new standard would need to be published.</p> <p>The opportunity would be available to include images of the relevant aquatic plants thus increasing the potential for a revenue stream from sales of the standard.</p>
Constitution of the Standards Reference Body	<p>The Fish Names Committee (FNC) was in operation but did not collectively have the skills and knowledge to decide on appropriate names for aquatic plants. The FNC could be expanded to include the expertise.</p> <p>The current FNC has 13 members plus a chair and project manager</p> <p>There may be some cross membership between the FNC and a group to consider names for aquatic plants.</p>	<p>A specific Standards Reference Body (SRB) would need to be established with a much smaller membership than the current FNC due to a smaller group of stakeholder groups.</p> <p>FNC member Karen Gowlett-Holmes indicated that she is the custodian for the aquatic plants entries in the Codes for Australian Aquatic Biota (CAAB) database (http://www.cmar.csiro.au/caab/) and can provide expertise.</p> <p>The section of the industry that deals with edible algae is well known and would be easily accessed.</p>
Meetings of the SRB	<p>Consideration of proposals to add names for aquatic plants to the AFNS would be part of the normal meeting agenda</p> <p>A working group could be established to workshop names and make recommendations to the FNC for approval of the proposed names</p>	<p>The SRB for aquatic plants would initially meet to develop and approve the initial list of names and would then only need to meet as required.</p> <p>This SRB would probably meet every two years.</p>
FRDC searchable database	The public interface of the AFNS is the searchable database at www.fishnames.com.au which would need modification to indicate that edible algae are included in the searchable data	It was considered that the same searchable database would be used with a notation that the search includes aquatic plants in addition to fish names.

After consideration, the FNC recommended to the FRDC that an Australian Standard for Aquatic plants should be developed as a standalone project.

Input was sought from key stakeholders who all expressed support for the project.

FRDC Scope of Accreditation

FRDC is accredited as a standard setting body responsible for the Australian Fish Names Standard and other potential standards within its scope as an accredited SDO. The current FRDC scope of accreditation is, "To

develop Australian Standards in the fields of terminology, sustainability, and operational practices in the fishing and aquaculture industry”.

Because of its experience in the development of the Fish Names Standard, FRDC developed standards:

- have a high level of integrity and credibility
- have the support of the industry and stakeholders
- are developed in an open and transparent manner
- may be developed into a formal Australian Standard through a much more efficient and straightforward process than would otherwise be the case.

It was agreed that the development of the proposed Australian Standard for Aquatic Plant Names was within the FRDC Scope of Accreditation.

Project Proposal and funding of the project

Alan Snow was asked to manage the project and Meaghan Dodd was appointed as co-investigator during the project and took over much of the day-to-day management of the activity.

A project proposal and development plan and project funding application was prepared

The Project Proposal and a Project Registration and Development Plan including the net benefit is included as [Appendix 2](#).

The FRDC approved funding for the project in March 2018.

Establishment of a steering committee

It was recognised that, although the Project Manager had experience at developing a standard, it was important to establish a steering committee to get the project on track from the start. The members of the steering committee played a key role and included:

- Duncan Farquhar, Program Manager, Rural Industries Research and Development Corporation
- Nicole Stubing, Program Manager, Fisheries Research and Development Corporation
- Karen Gowlett-Holmes, CSIRO Fish and Invertebrates Taxonomy and custodian of the aquatic plants in the CAAB database
- Gordon (Gus) Yearsley, long term member of the Fish Names Committee and experienced at standards development and the architect of the Common Names workshop in Adelaide
- Alan Snow – Project Manager for the Fish Names and Aquatic Plant Names projects

The key achievements of this steering committee were:

1. Identified the key industry stakeholders and potential participants for the first industry workshop
2. Agreed on the scope of the project to be taken to the first industry workshop
3. Developed an initial list of candidate names for discussion at the industry workshop
4. Identified additional stakeholders who could assist in raising awareness of the project
5. Developed an agenda for the industry workshop.

Industry Workshop 1

A one-day intensive workshop of 20 affected stakeholders with an in-depth knowledge of the field was invited and funded to attend an industry workshop at CSIRO in Hobart on 6 September 2018.

This methodology was used for the conduct of the highly successful Fish Names Workshop in Adelaide in September 2004. The success of the Adelaide workshop was reliant on extensive work beforehand that meant only ‘problem’ names were discussed face-to-face.

Gordon (Gus) Yearsley was invited to facilitate the workshop and to ensure that a consensus position was reached on the candidate names to go forward.

The first task was to develop a scope for the standard and to thus determine what was to be included in the first version of the standard.

The workshop agreed on the following definition.

1. For the purpose of this standard Aquatic plants are defined as plants used commercially as a source of food, therapeutics derivatives and additives, that naturally require saltwater or freshwater habitats for growth.
2. Plants are defined as Vascular plants, protists and photosynthetic prokaryotes
3. Saltwater habitats are defined as marine and brackish waters up to the highest astronomical tide.
4. Freshwater habitats are defined as temporary and permanent inland water bodies

Having effectively defined the scope, the next task was to agree on a set of naming protocols which are included as [Appendix 3](#).

The workshop then discussed and refined the list of candidate names based on the scope and the protocols.

First round of public consultation 4 May 2019

The outputs from the first industry workshop were collated and the proposed names were subjected to a public consultation period of three months using [Google Forms](#).

It was recognised that a second industry workshop was needed to progress the standard as further input and stakeholder submissions were received. Additional funding was received to conduct a second workshop in Sydney

Industry Workshop 2

A second industry workshop of 11 key stakeholders was conducted in Sydney on 15 August 2019 and hosted by the National Herbarium of New South Wales.

Gordon (Gus) Yearsley again agreed to facilitate the workshop.

Participants were again reminded of the goal of the project and their responsibilities in adhering to the FRDC Standards Development policies and procedures.

The workshop discussed the outputs from the first round of public consultation and agreed to a list of names, which were incorporated into the Draft of AS 5301 the Australian Standard for Aquatic Plant Names

Some names required further consideration

Nominations for the Standards Reference Body were called at the meeting.

A consultation draft of the Australian Standard was also presented for discussion. It was determined that, due to the complexity of the comments, a second round of public consultation was needed which would include a consultation draft of the proposed standard.

The meeting report was distributed widely after the workshop for comment from stakeholders

Appointment of the Aquatic Plants Standards Reference Body

Standards Australia have determined that a Standards Reference Body

- Shall comprise a balanced representation from all major interest categories relevant to the Standard.
- The interest categories shall be at least producer, user, and general interest.
- Each interest category may cover a number of organisations or interest groups.

The following structure for the proposed Standards Reference Body was developed to ensure that all major stakeholder groups were included.

- Independent chair

- Industry representatives
- Hospitality Industry
- Academia including museums, herbariums, etc
- CSIRO CAAB Database representative

The FRDC approved the following structural representation to the Standards Reference Body on 8 April 2020

Name	Representation	Interest Category
Gordon Yearsley	Independent Chair	
Karen Gowlett-Holmes	CSIRO and CAAB Database	General Interest, Technical expertise
James Ashmore	Industry	Producer, User, Distributer, Retailer
Pia Winberg	Industry	Producer, User, Distributer, Retailer
Russell Glover	Industry	Producer, User, General Intertest, Industry Association
Cassandra Austin	Hospitality	User, General Intertest, Consumer
Alecia Bellgrove	Academia	User, General Intertest, Professional society
John Huisman	Academia	User, Professional society

The Standards Reference Body formally met on the following dates.

- 12 May 2020 To review the candidate names approved at the second industry workshop and to give further consideration to the species that were set aside. A working party was established to consider the additional names.
- 18 May 2020 The working party met to give further consideration to the proposed candidate names and make recommendations for the consideration of the Standards Reference Body.
- 26 May 2020 The Aquatic Plant Names SRB met to review the recommendations from the WP and approved the Draft for Consultation of AS 5301-2020 the Australian Standard for Aquatic Plant Names to proceed to public consultation

All meetings were held by ZOOM video conferencing technology.

Second round of public consultation 4 June 2020

A second round of public consultation on the candidate names and the Consultation Draft of the Australian Standard using [Google Forms](#) was conducted between 4 June 2020 and 15 August 2020.

A considerable amount of feedback was received as identified in [Appendix 4 –Results of Final Round of Public Consultation](#).

The third meeting of the SRB was held on 26 August 2020 to consider all feedback received through the public consultation process. The SRTB recommended to the FRDC as the SDO that AS 5301-2020 the Australian Standard for Aquatic Plant Names be published.

Final Process Approval

As the approved Standards Development Organisation, FRDC has the responsibility to approve the publication draft of the standard if it is satisfied that all FRDC standards development policies and procedures have been adhered to.

The process steps of developing the standard are also tested against the Standards Australia criteria for developing an Australian Standard.

A document was developed that addressed the SDAC assessment criteria for developing an Australian Standard. This document is available on the [FRDC website](#).

The FRDC Board approved the Draft for Publication version of the Australian Standard for Aquatic Plant Names on 18 September 2020.

Publishing of The Australian Standard for Aquatic Plant Names

[AS 5301-2020 The Australian Standard for Aquatic Plant Names](#) was published on 27 November 2020 and made available on the FRDC website from that date.

Copies of the final standard and other relevant documents were also forwarded to the publication group at Standards Australia in November 2020.

Standards Australia have advised that an agreement is not in place to distribute the standard at this time but the standard is freely available through FRDC.

Develop procedures to consider new proposed amendments to the standard

A procedure and associated forms have been developed to receive and consider proposed amendments to the Aquatic Plant Names Standard.

These forms and procedures have been modelled on the forms used for the Australian Fish Names Standard.

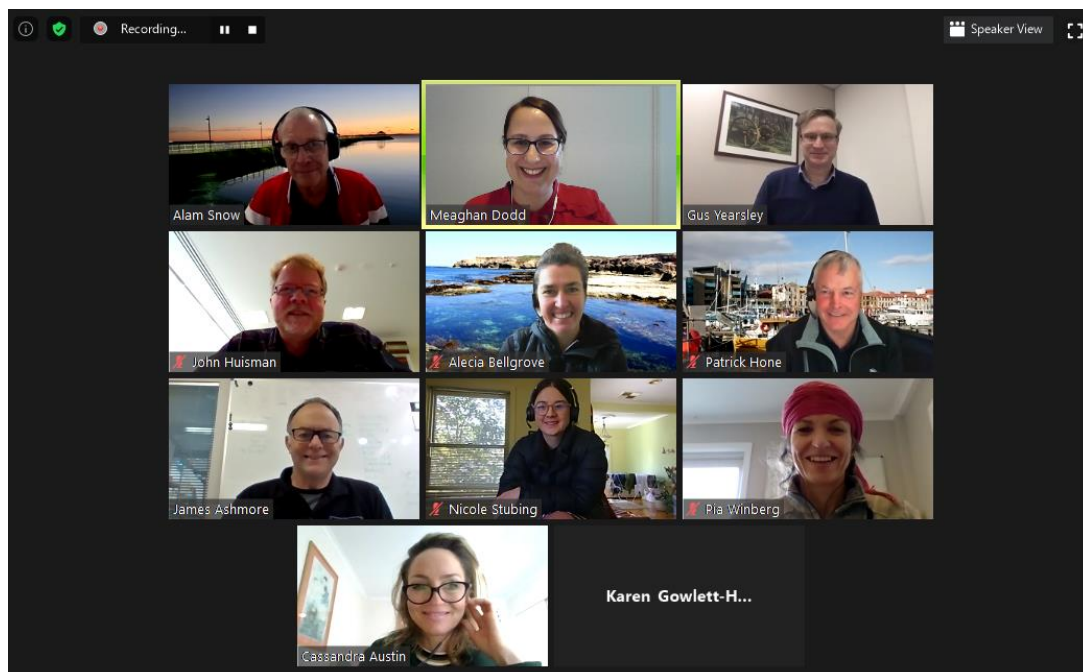


Figure 3 SRB Meeting by Zoom

Conclusion and Recommendations

This project has achieved all that it set out to do but has taken more time than expected due to a number of factors including the COVID pandemic.

There were extra rounds of public consultation held and an extra industry meeting held as more participants became involved in the process.

This is the first version of what is a new and revolutionary standard in an emerging industry.

The key recommendations are:

1. Processes should be developed to address new proposed amendments to the standard. The first edition of the standard has been intentionally broad to reflect the marketplace. The list of names in the standard is expected to expand as more species become commercial and there is further market differentiation of the species.

The procedures for addressing proposed amendments and the application form have been completed.

2. A searchable database of the standard names for aquatic plants should be developed. While the standard is quite concise, a searchable database will assist in growth of the industry and will assist in correct identification of the species.

Additional funding to develop the database has been approved as part of the project extension and will be completed in early 2021.

3. Ongoing development of the Aquatic Plant Names Standard be merged with the Fish Names Project as there are many synergies between the two projects.

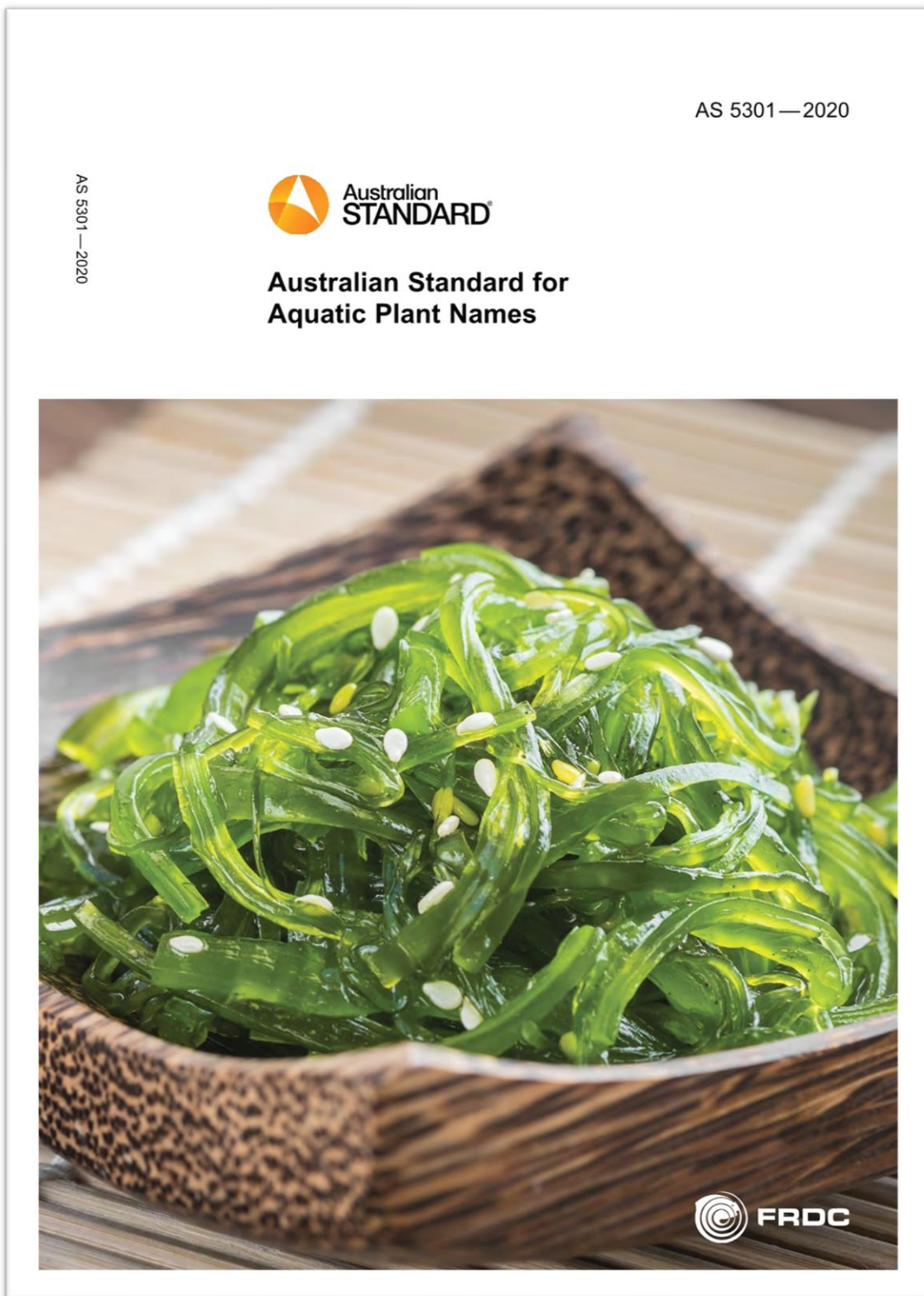
Extension and Adoption

The key extension components of this project have been

COMPONENT	STRATEGY
Promotion of Aquatic Plant Names	At every opportunity All parties have a role to play All SRB Members have promoted and contributed to the Aquatic Plant Names process.
Advertising the proposed standard and the list of candidate names	FRDC resources which circulates through both email and social media sites Email distribution to AP-SRB members with a request for them to on-forward to their respective membership or distribution lists
Promotion of the completed standard	Through FRDC and Intuitive Food Solutions social media linkages and through direct email.

Appendices

Appendix 1 – AS 5301-2020 – Australian Standard for Aquatic Plant Names



The complete standard is available at [Seafood Standards](#) on the FRDC website.

Appendix 2 – FRDC Project Proposal and Development Plan

Proposal title	Australian Standard for Aquatic Plant Names
Your name	Alan J Snow
Preferred contact number	0418 199 516
Email address	Alan.snow@frdc.com.au
Name of employer	Alan Snow Consulting
Job title or position	Owner
Postal address	PO Box 421
Suburb	CANNON HILL
State	Qld
Postal code	4170
Web address	

If you are submitting on behalf of an organisation that is different than your current employer, please fill out the information below.

Nominating organisation	Fisheries Research and Development Corporation
Primary contact name	John Wilson
Primary contact position	Business Manager
Primary contact email	john.wilson@frdc.com.au
Primary contact phone	02) 6285-0411

Project Proposal - Scope

Title	Australian Standard for Aquatic Plant Names
Project type (revision, amendment ¹ or new ²)	New Project
Designation (e.g. AS 1316:2003) ³	AS 5301
Product type (e.g. AS, AS Int, SA TS, etc.) ⁴	AS
Write a clear and concise statement of the nature of the issue to be addressed by your proposal (Describe who is affected e.g. businesses, community organisations or	To develop an agreed set of standard names for Aquatic Plants in Australia. The standard will potentially have names for both marine and freshwater plants but will initially focus on commercial marine plants.

¹ An amendment is usually only possible for small changes to recently created documents. See section 4 of Standardisation Guide [SG-003: Standards and Other Publications](#) for more details.

² If you are proposing to create a new document, please provide a suggested Title.

³ Use [SAI Global website](#) to obtain the full designation and name of existing documents

⁴ FRDC mainly develops Australian Standards (AS)

<p>individuals affected by the problem. What are the consequences of no action?)</p>	<p>This is an important and rapidly emerging issue, and the industry should be proactive and develop a list of agreed standard names for all commercial and potentially commercial aquatic plant species.</p> <p>If this standard were not to be developed, a plethora of unregulated names for the same species could eventuate.</p>
<p>Write a clear and concise proposed scope that will outline how to address the identified issue(s). Unless this is a proposal for a new document, this should not be a scope of the document, but a scope of the work which you propose to undertake.</p> <p><i>(Include what is going to be changed from the status quo and summaries intent of the change. If you wish to include proposed revisions as tracked changes in the standard, or an outline of a new standard, please summarise the scope and note the attachment here, and include as an appendix to this form</i></p>	<p>This standard will define the standard names for aquatic plant names including algae, microalgae, samphire, etc to be used in Australia; and specify when standard names are to be used. Annex A of the standard will provide a list of agreed standard names for aquatic plants and will form part of the standard. Plants from marine and freshwater environments are covered by this standard, irrespective of the Country of Origin.</p> <p>The scope of the standard is intentionally broad, but the species to be considered initially for inclusion in the <i>Australian Standard for aquatic plant names</i> will be limited to edible marine algae, microalgae, and samphire from marine environments but species from freshwater environments can be included as necessary.</p> <p>Other commercial species may be added at a later time as necessary.</p> <p>Not developing a standard would result in a completely unregulated marketplace.</p>
<p>Are you proposing an adoption of an International Standard (i.e. ISO or IEC)? If so, answer the following.⁵</p> <p>Is it a Modified or Identical Adoption? – Note: if identical use the Proposal Form – Identical Adoption</p> <p>What is the designation? (e.g. ISO 1030.232-2004)</p>	<p>No</p>
<p>Is the existing document referenced in Australia State, Territory or Commonwealth legislation or regulatory framework? For joint documents, also consider New Zealand legislation.⁶ If yes, list all legislation or regulation that refer to the existing document⁷, If no, insert 'not applicable'</p> <p>Note: All relevant regulatory authorities must be consulted in the stakeholder consultation</p>	<p>No</p>

⁵ Use [SAI Global website](#) to obtain the full designation and name of existing documents

⁶ To search for standards in Australasian legislation, use Standards Australia search function [here](#)

⁷ Use the full formal designation for the relevant legislation, e.g. Explosives Regulation (NSW).

Is there an ISO/IEC document that also covers the issues in question? Yes/No	No Associated Australian and International standards which may be referenced as part of the development include: <ul style="list-style-type: none"> • AS5300 which defines standard fish names • ISO 676:1995 which gives a non-exhaustive list of the botanical names and common names in English and French of plants or parts of plants used as spices or condiments. • AS 1148-1971 - Nomenclature of commercial timbers imported into Australia • AS 2543-1983 - Nomenclature of Australian timbers
Will the proposed document include any conformity assessment requirements? ⁸ Yes/No	No

Project Proposal – Net benefit

What will be the impact of the proposed project in the below categories? Explain this in terms of a positive or negative impact on the following ‘Net benefit’ criteria. ⁹	
Public health and safety (max 200 words)	Public health and safety will be enhanced because as edible aquatic plants become more prevalent, the community will need to have confidence in what they are purchasing/consuming, particularly as this is an emerging industry.. It is possible that specific allergies may be prevalent for certain affected persons and correct labelling will allow affected persons to avoid products that pose a risk.
Social and community impact (max 200 words)	This is an emerging industry and there is an opportunity to create an industry agreed set of standard names for aquatic plants in the embryonic stages of the industry development. Producers will have confidence in the names of the species of aquatic plants that have been harvested. A more successful marketing strategy can be undertaken because of the industry agreed names. All stakeholders have expressed support for the project All state jurisdictions either reported growth in the sector or growing interest in macroalgae farming.

⁸ See Standardisation Guide [SG-006: Rules for the structure and drafting of Australian Standards](#). Note that conformity assessment requirements are rarely permitted in a standard. If you selected ‘yes’, please discuss with the FRDC prior to submission.

⁹ Add specific facts and examples if possible. Refer to the [Guide to Net benefit](#). Not all categories may be affected, in which case, leave these blank

Environmental impact (max 200 words)	<p>The main advantage of this project will be to better manage the marine resource through a set of agreed standard names.</p> <p>As the Status of Australian Fish Stocks database links closely with the Australian Fish Names Standard, this project will provide the opportunity for such a linkage to be made if there is a need to manage the marine resource.</p>
Competition (max 200 words)	<p>Development of an agreed set of standard names for aquatic plants to be used in Australia will facilitate international alignment, particularly if aquatic plant products are imported. Both imported and domestic product would need to use the same name in Australia.</p> <p>This will facilitate improved market access for domestic product.</p>
Economic impact (max 200 words)	<p>The economic impacts are not really quantifiable but the impact of not developing the standard are evident.</p> <p>Consumers will know what they are getting through truth in labelling. Not developing a standard would result in a completely unregulated marketplace. The names that are developed will be well publicised and will become known to consumers.</p> <p>Producers and suppliers will have certainty in what they are producing and supplying and will have the ability to develop a marketing strategy and business plan based on agreed and accepted standard names.</p>

Project Proposal – Stakeholder support

Describe the process taken to gain stakeholder support for your proposal (max 100 words)

The Fish Names Committee (FNC) initially discussed the concept at its meeting on 26 September 2017. Discussions were held with Duncan Farquhar, Program Manager, Research and Innovation, RIRDC who strongly supported the project and provided some valuable insight into the potential growth of the marine plants sector.

State jurisdiction were contacted in late 2017 and all expressed an interest in the project.

Western Australia reported that they are not aware of any marine plants grown for human consumption in WA, although there is growing interest in macroalgae farming.

Victoria reported that there is a person that harvests *Undaria* under licence from the Department of Environment Land Water and Planning. He apparently works in Western Port Bay and Port Phillip Bay for sale in various markets.

Tasmania reported that interest in marine plants seems to be growing. There are several groups with interest at looking at marine farming. They supplied a list of active producers.

Northern Territory reported that they don't have any marine plant production in the NT but do have the only Spirulina production farm in Australia.

Dr Fiona Scott - Honorary Associate, Tasmanian Herbarium, Tasmanian Museum and Art Gallery has recently published of the book, "Marine Plants of Tasmania". Fiona has an involvement in taxonomy (microalgae and macroalgae) and can help with the project. Email correspondence with Dr Scott has been very helpful and gave some useful resources.

Other producers and affected stakeholders have been contacted and given support for the project.

Contact has been made with Cathy Webb, Seafood Standards Manager, Seafood New Zealand Limited who said that the industry is in an embryonic stage in New Zealand and they would be keen to be part of the project in some capacity.

Identify the Australian stakeholder organisations that you have consulted with

Evidence of stakeholder support MUST be provided in a letter (on company letterhead) or email (company email only)

At least two New Zealand-based stakeholders must be included for projects relating to joint AS/ANX standards. Include those that do, and not, support the proposal.

Key stakeholder groups	Organisation Name	Contact Name	Position	Letter or email evidence is attached: Y/N	Interested in membership of Standards Reference Body Y/N
Research and academic organisations	Agrifutures RIRDC	Duncan Farquhar	Program Manager Research and Innovation RIRDC		
	Tasmanian Herbarium, Tasmanian Museum and Art Gallery	Dr Fiona Scott	Honorary Associate		
Manufacturer associations					
Testing bodies					
Certification and auditing bodies					
Supplier associations					
User and purchaser associations					
Employer and industry associations					
Professional and technical bodies					
Unions and employee associations					
Consumer and community groups					
Government and regulatory agencies					
Independent experts		Gordon Yearsley			
	CSIRO Marine Research Laboratories Fish Taxonomy	Karen Gowlett-Holmes	Marine Invertebrates Collection		Yes
New Zealand stakeholders	Seafood New Zealand Limited	Cathy Webb	Seafood Standards Manager	Email interest	Interested in project and may be involved

Key stakeholder groups	Organisation Name	Contact Name	Position	Letter or email evidence is attached: Y/N	Interested in membership of Standards Reference Body Y/N
Other					

Registration of new project

Project title:	Develop an Australian Standard for Aquatic Plant Names
Project description:	<p>To develop an agreed set of standard names for Aquatic Plants in Australia</p> <p>This is an important and rapidly emerging issue, and the industry should be proactive and develop a list of agreed standard names for all commercial and potentially commercial species.</p> <p>The methodology to be used will be based on the procedures that were used for the development of the Australian Fish Names Standard</p>
Estimated date for publication:	
Project Manager	Alan J Snow
Project Manager contact – telephone number	0418 199 516
Project Manager email address	Alan.snow@frdc.com.au
SRB Chair	
SRB Chair contact - telephone number	
SRB Chair contact - email address	
Administrative contact	John Wilson
Telephone number	+61 2 6285 0400
Website	www.frdc.com.au

Project Development Plan

The objectives of project	<p>To assign standard names for current and potential edible aquatic plants that are sold for human consumption – including commercially important algae and samphire species.</p> <p>To achieve stakeholder support for the proposed names</p> <p>To develop an appropriate Australian Standard for aquatic plant names incorporating the agreed list of edible aquatic algae.</p>
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The specific groups to take part in the revision of the Standard	
The Standards development process to be followed	<ol style="list-style-type: none"> 1. A specialist working group of affected stakeholders with an in-depth knowledge of the field will be appointed to make recommendations on candidate names. The most appropriate way to do this would be through the conduct of a one-day intensive workshop of interested stakeholders to workshop the names, preceded by stakeholder consultation that will identify names to be further discussed at the workshop. This will result in the bulk of the candidate names being agreed by stakeholders prior to the workshop, but names requiring further consideration will need to be identified prior to the day. 2. This methodology was used for the conduct of the highly successful Fish Names Workshop in Adelaide in September 2004. The success of the Adelaide workshop was reliant on extensive work beforehand that meant only 'problem' names were discussed face-to-face. 3. The agreed list of candidate names would then be subjected to the normal standards development and public consultation processes and procedures. 4. All affected stakeholders, including industry partners, will be involved at all stages of the development of the new standard. It is expected that industry partners will be involved in the Standards Reference Body that will oversee the development of the new standard.
The anticipated timeframe for completion of the proposed Standard and how this meets the needs and expectations of the specific user group, industry, government and the community; and	
Any dependencies that may impact the timely completion of the Standard.	

Appendix 3 –Australian Standard for Aquatic Plant Names - Naming Protocols

Scope

This protocol will be applied by:

1. the applicant applying to amend the Australian Aquatic Plant Names Standard, and
2. the Aquatic Plant Standard Reference Body (AP SRB) when considering a proposed amendment of the Standard.

The set of protocols/assessment criteria is based on the Standard Fish Names Protocols, which were developed and agreed to by an eminent group of fish taxonomists, authors, and industry experts at a Common Names Workshop (21-22 September 2004). They were then adapted in draft form for consideration and review at the Aquatic Plant Names Workshop 1 held in Hobart on the 6 September 2018. The newly formed AP SRB finalised the protocol in September 2020.

Compliance with international obligations

The Australian Standard for Aquatic Plant Names must comply with Australia's international obligations including World Trade Organization (WTO) Agreement on Technical Barriers to Trade (commonly referred to as the TBT Agreement) and particularly Annex 3, the World Trade Organisation Code of Good Practice for the Preparation, Adoption and Application of Standards when developing standards, which requires that standards:

- accord products originating from other members of the WTO, no less favourable treatment than products of Australian origin.
- ensure that unnecessary obstacles to international trade are not created.
- where international standards exist or their completion is imminent, use the relevant parts of them as a basis for its work, except where they would be ineffective or inappropriate.
- make every effort to achieve a national consensus.

Compliance with Federal and State laws

The Australian Standard for Aquatic Plant Names must comply with relevant Australian and State Governments' laws including, but not restricted to:

- 1) Australian Government's legislative objectives for developing food standards including:
 - a) the protection of public health and safety
 - b) the provision of adequate information relating to food to enable consumers to make informed choices.
 - c) the prevention of misleading or deceptive conduct.
- 2) Trade Practices Act, which:
 - a) prohibits anti-competitive practices.
 - b) prohibits unconscionable conduct.
 - c) requires compliance with applicable industry codes of conduct.
 - d) provides consumer protection (unfair practices, product safety and information, conditions and warranties, actions against manufacturers/importers, product liability).

Preferred names

Preference will be given to:

- 1) a name that has over-riding historical significance (e.g., names that have been widely used across Australia over the last century or so (historical names), or nationally entrenched names, would generally have preference over recently derived, less well-used names)
- 2) a name that facilitates market acceptability

- 3) a name that is internationally accepted
 - a) a regional name where the species is most commonly found would normally have priority over a less frequently used name, or names used where the species is less common.
 - b) a vernacular or common name in Australia (where one exists) retained in full or in part providing it complies with these guidelines.
 - c) a name that has demonstrated strong stakeholder support.
 - d) a name used in recent mainstream field guides and group treatments with regional relevance.
 - e) a name that most effectively distinguishes a species from its closest relatives (e.g., by reference to a diagnostic feature) is preferred over less obvious or irrelevant combinations.
- 4) a name that generally conforms to other members of the family or generic-level grouping
- 5) a name that is simple, unambiguous, and easily readable.

One name per species

- 1) each species may be assigned a single, standard aquatic plant name.
- 2) no two species may have the same approved standard name.
- 3) in occasional rare cases, 'product' or 'plant part' names will be assigned where different parts of a particular species are marketed separately as significantly different entities.

Group names

A group standard aquatic plant name:

- 1) may cover multiple species in a particular scientific family or group of aquatic plants.
- 2) may not be the same as a species' standard aquatic plant name.
- 3) may be used in the singular or plural if followed by (s)
- 4) will follow internationally accepted names unless alternatives are well entrenched in Australian mainstream literature.

Sub-species and hybrids

Sub-species and hybrids will not generally be given a standard aquatic plant name.

Structure of names

Simplicity of names and name structure is fundamental to the naming process.

- 1) Avoid using:
 - a) long-winded names
 - b) unnecessary suffixes and hyphens
 - c) ambiguous names, for example, where names combine well (elements are easily determined and unambiguous), use one word.
 - d) long names with multiple descriptors
 - e) repetitive frequently used descriptors (e.g., 'Spotted', 'Banded', 'Striped', 'Australian', 'Deepwater'), unless no other distinctive attribute exists
 - f) patronyms or names intended to honour persons (apart from those that are historically entrenched) are discouraged; however
 - i such names may be used when no user-friendly, diagnostic descriptors are available, and
 - ii when used, these names should include an apostrophe, and
 - iii names derived from ships should not be represented in the possessive case.

- g) the expression 'Common', or emotive terms such as 'Dangerous', as part of an aquatic plant's name
 - h) descriptors of size (e.g., 'Little', 'Large'), unless strongly diagnostic of the species or group in question
 - i) names that are also widely used for other organisms unless pre- or suffixed to make them distinct.
- 2) Use:
- a) hyphens where combinations involve vowel or letter pairing.
 - b) separate names to maintain 'readability' if the word elements are unclear.
 - c) the correct form of the descriptor, for example:
 - i 'Orangespot' refers to a species with a single orange spot.
 - ii 'Orangespotted' refers to a species with multiple orange spots.
 - iii 'Orange Spotted' is non-specific (i.e., it might refer to a generally orange coloured species/group or a species/group with orange spots)
 - d) Construct descriptors based on:
 - i structural attributes, coloration, and colour pattern
 - ii suitable adjectival modifiers reflecting the geographic distribution of the species.
 - iii ecological or biological characteristics of the species
 - iv colourful, romantic, fanciful, metaphorical, otherwise distinctive and original names
 - v well-accepted indigenous names.

Scientific names

- 1) A standard aquatic plant name is not intimately tied to scientific name changes (i.e., if the scientific name of a particular species changes, the standard aquatic plant name should remain unaffected unless there is a good reason for change)
- 2) Generic or family names (i.e., scientific names) may be used as standard aquatic plant names.

Other grammatical rules and exceptions

Standard aquatic plant names should adhere to the following rules:

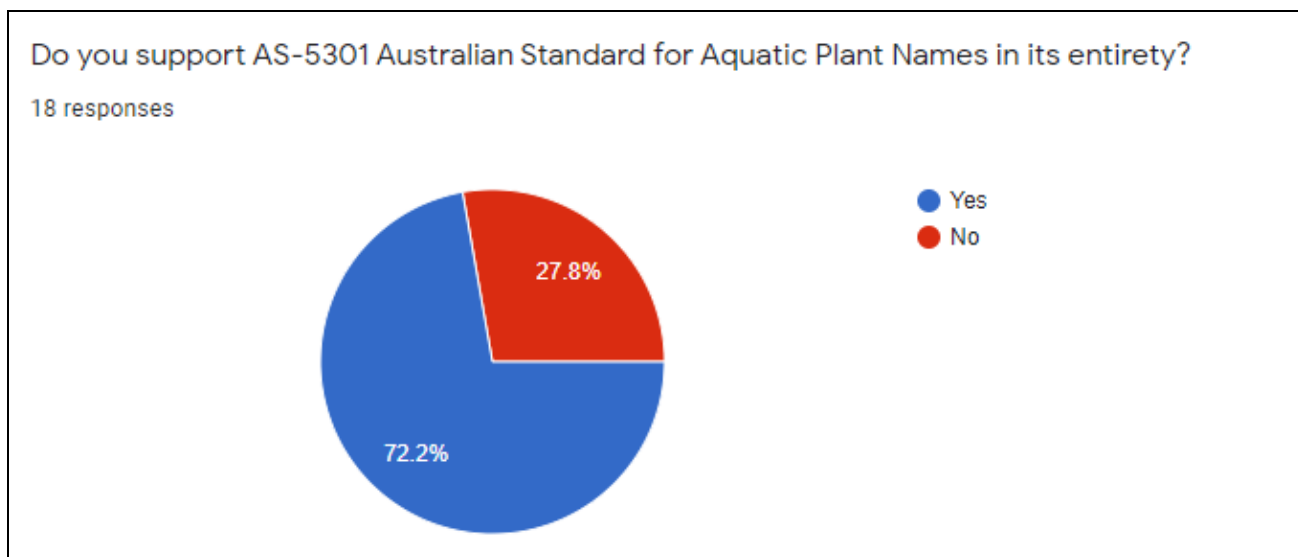
- 1) Use **capital letters** at the start of each word except directly following a hyphen (exceptions to this are where the hyphenated word/s are proper nouns)
- 2) **Abbreviated forms** of words and combined words are preferred except where there is some advantage in retaining the unabbreviated form in keeping the words separate, for example use 'and' rather than '&'; use 'zigzag' rather than 'zig-zag'.
- 3) **Words that end in 'ate'**. Most words that end in 'ate' are adjectives, so a 'd' is not required at the end of the word (e.g., 'Reticulate rather than 'Reticulated). For verbs, such as 'inflate', a 'd' is required at the end of the word. For example:
 - a) 'Annulate' (adjective)
 - b) 'Decorated' (verb)
 - c) 'Delicate' (adjective)
 - d) 'Elongate' (verb/adjective)
 - e) 'Fimbriate' (adjective)
 - f) 'Frigate' (noun)
 - g) 'Immaculate' (adjective)
 - h) 'Inflated' (verb)
 - i) 'Lanceolate' (adjective)
 - j) 'Ocellate' (adjective)
 - k) 'Ornate' (adjective)

- l) 'Reticulate' (adjective)
 - m) 'Striate' (verb/adjective)
 - n) 'Variegated' (verb)
 - o) 'Vermiculate' (verb/adjective)
- 4) **Combine** words that:
- a) precede 'band' and 'banded' except for unwieldy combinations.
 - b) precede 'bar' and 'barred' except for unwieldy combinations.
 - c) precede 'blotched' are combined.
 - d) follow 'Double' except when followed by an 'e' or based on readability.
 - e) follow 'False' or separate them based on readability.
 - f) follow 'Half'.
 - g) precede 'line' and 'lined' except in a few cases based on readability.
 - h) precede 'speckled'.
 - i) precede 'spine'.
 - j) precede 'spotted' except for longer words that end in 'y', which are unwieldy if combined.
 - k) precede 'streak' and 'streaked'.
- 5) **'Margin'** (a noun) is used if the type or colour of the margin is defined; 'Margined' (an adjective) is used if it stands alone.
- 6) **Multi** is usually combined except for unwieldy cases.
- 7) **'Shorthead'** is one word.
- 8) **'Spangled'** not 'spangle'.

Appendix 4 –Results of Final Round of Public Consultation

Public consultation Summary

Date commenced	4 June 2020
Date completed	15 August 2020
Distribution strategy	Email and various social media platforms
Sent to AP SRB members to on-forward	On a number of occasions requested to forward the email and social media LI and FB posts to be shared and /or liked to their networks. This included sharing with the ASPAB network - Australasian Society for Phycology and Aquatic Botany.
Sent to AP email list	4 June 2020 – AP update #2 3 August 2020 – AP update #3
Shared to Intuitive Food Solutions FB & LI	Facebook and LinkedIn 4 June 2020 and 3 August 2020
FRDC shared with links	FB: 5 June 2020 Email: Stakeholder Briefing June 2020 Fish Magazine: July 2020 page 9
Standards Australia E-news July with link	Email: 31 July 2020
No of responses	18



General comments received FOR the Consultation Draft

- Great effort, some std names in caps some in sentence case
- All for this standard!
- This is an important and needed standard. The industry and the market needs the stability of common names if the utilisation of aquatic plants is to successfully move forward.
- NIL
- Comprehensive

- For the draft agreement, pending corrections to two proposed names.
- For
- I have emailed comments and corrections on the Consultation Draft.

General comments received AGAINST the Consultation Draft as a whole

Negative Comments Received	SRB Discussion	Action by SRB
Name of standard needs to be clearer ie EDIBLE Aquatic Plant Names. Otherwise you may have many disappointed people with the lack of Aquatic Plant Names. Taxonomic names are changing due to genetic studies, updates may be required more frequently. Cost of Standard needs to be kept low given your target audience.	Change the image on the cover of the document Covered in the scope and the definition	Not accept
For a standard to avoid confusion in the marketplace. (NOTE This person voted Against, but looks like it should have been For.)	Comment not relevant	No action
I am disappointed there does not appear to be a single Australian indigenous name in the list. For example, Kaourou is the Bindal name for <i>Nymphaea gigantea</i> , which is included in this list as 'Blue Water Lily' a moniker applicable to half the genus, more than half the many native species of <i>Nymphaea</i> subgenus <i>Anecphyra</i> and to several exotic weedy species. Many of the aquatic plants were and are actively used by indigenous Australians.	This is about commercial names and there is more than one indigenous name for each species and needs a broad discussion The Indigenous Reference Group have been included in the regular stakeholder briefings and given the opportunity to respond on every occasion.	An acknowledgement of indigenous names to be included in the introspection to the standard
I am a permitted harvester of Victorian Seaweeds primarily Wakame, Ecklonia, Caulpera, Sea lettuce and Gratelopia. My annual harvest is in excess of 10 tonnes. I was not included in any part of your process to develop these Standards and multiple contact attempts to involve myself in the process were ignored. I market a freeze dried seaweed powder (mixture of Wakame, Mekabu and Ecklonia) as Kombu powder (Kombu being the Japanese name for seaweed).	Statement is incorrect because Kombu is not the Japanese name for seaweed The freeze dried seaweed powder named as Kombu is misleading as does not contain Kombu Tasmanian Kombu is not in the standard The statement Ecklonia should be named "Australian Kombu" not "Golden Kelp" is incorrect	Not accept

Negative Comments Received	SRB Discussion	Action by SRB
<p>Kombu is an important marketing name which is now also to used for a Tasmanian species " Tasmanian Kombu" - Ecklonia should be named "Australian Kombu" not "Golden Kelp"</p> <p>I can't help feeling that high-level participants in your process have been able to influence proceedings to gain access to names for their commercial advantage.</p>	<p>There was an unfounded accusation as there is no commercial advantage to anyone on the SRB</p>	

Comments about specific parts of Annex A of the Consultation Draft

Species	Respondent Comment	SRB Action
Brown Algae		
<i>Cladosiphon, Tinocladia, Myriogloea & Nema cystus spp.</i>	Please add genus Chordaria to MOZUKU (e.g. https://www.algaebase.org/search/species/detail/?species_id=71915)	Accept and include in scientific name
<i>Undaria pinnatifida</i>	Also, as printed, no species is shown in the column entry for Wakame/Mekabu/Kukiwakame - please add Undaria pinnatifida to the species column.	No change Not relevant All fixed in most recent version
<i>Ecklonia radiata</i>	Common kelp. The name Common Kelp has been used widely for a VERY long time and is more suitable for Ecklonia radiata as it is one of the most common species of kelp. The name Golden Kelp is the product name for our business Sea Health Products and has gained popularity as awareness and publicity for the business has grown. Golden Kelp is rarely mentioned in NZ as the species name. I can provide scientific literature where it always referred to as Common kelp and occasionally as brown kelp.	No change Should avoid common in the name according to the naming protocols Golden Kelp is listed in Atlas of Living Australia and other references Golden Kelp is the common name and is also the name that it is traded as Origin of name Golden Kelp predates the business who is using it
<i>Ecklonia</i>	Ecklonia should be called "Australian Kombu" - allows existing harvester to continue marketing an existing product	No change already discussed
Cyanobacteria		

Species	Respondent Comment	SRB Action
Spirulina for <i>Arthrospira platensis</i>	<p>Scientific name = <i>Limnospira</i> spp</p> <p>Reason = The commercially produced Spirulina = <i>Arthrospira fusiformis</i> & <i>Arthrospira maxima</i> but in 2019 these species transferred to <i>Limnospira</i>. so L.(A) <i>fusiformis</i> and L. (a) <i>maxima</i>.</p> <p>Reference: Nowicka-Krawczyk, P., Muhlsteinova, R. and Hauer, T. (2019). Detailed characterization of the <i>Arthrospira</i> type species separating commercially grown taxa into the new genus <i>Limnospira</i> (Cyanobacteria). <i>Scientific Reports</i> 9 1-11</p>	<p>Change accepted</p> <p>Spirulina was changed to a group name for <i>Limnospira</i> spp</p>
Green Algae		
SEA GRAPES for <i>Caulerpa cylindracea</i> , <i>C. hodgkinsoniae</i> , <i>C. lentillifera</i> , <i>C. racemosa</i> , <i>C. sedoides</i> , <i>C. vesiculifera</i>	<p>There are at least four edible species in this group that are known to SE Queensland and they have very different flavours and textures. <i>Caulerpa lentillifera</i> is internationally known as Umi budo, a Japanese common name from Okinawa where this species was first farmed. <i>Caulerpa racemosa</i> var. <i>occidentalis</i> is known as Nama in Fiji, sea grapes in Australia, and is quite a different flavour and texture to Umi budo. I have sold <i>Caulerpa lentillifera</i> in Australia under the name Umi budo, which was well accepted by the restaurant trade. If these two species were sold under the more generic name "sea grapes" there would be no differentiation despite the large differences in flavour, texture and value between these two species.</p> <p>In Dr Alan Cribb's 1996 book "Seaweeds of Queensland - A Naturalist's Guide" he lists 25 commercially important seaweeds, many of which are not included in the Consultation Draft.</p>	<p>No change</p> <p>The comment is correct but new names cannot be accepted at this time</p>
Flowering Plants		
<p>WATER LILIES for <i>Nymphaea</i> spp.</p> <p>And</p> <p>Blue Water Lily for <i>Nymphaea gigantea</i></p>	<p>I am disappointed there are no Australian indigenous names used in this list. Many of the plants listed are used by indigenous Australian's and have names in many languages. For example, Kaourou is the Bindal / Birri Gubba name for <i>Nymphaea gigantea</i>. Could this also be added? The moniker 'Blue Water Lily' could be equally applied to <i>Nymphaea carpentariae</i>, <i>georginae</i>, <i>jacobsii</i>, <i>immutabilis</i>, <i>macrosperma</i>, <i>kimberleyensis</i> and <i>lukei</i> which are all the same violet-blue. It is also used for <i>Nymphaea caerulea</i>, the weed species which has outcompeted <i>Nymphaea gigantea</i> to the point of extirpation in SE Queensland.</p>	<p>No change</p> <p>There is an addition to the introduction to the standards which will partially address this comment</p> <p>No new names can be introduced at this stage of the process.</p> <p>Will need an application in the future</p>
Photosynthetic protists		

Species	Respondent Comment	SRB Action
	<p>The species Nannochloropsis is being farmed internationally and is in testing/ pilot scale production in Australia. Interest lies in its production of omega-3 fatty acids It belongs to the Class Eustigmatophyceae It may be too late for altering the proposed current version, but I leave that for the panel to decide.</p> <p>It could be included as A-5 Eustigmatophyte Algae Order Eustigmatales Family Monopsidaceae No CAAB code Approved Standard Name = Nannochloropsis and Microchloropsis spp Scientific Name = Nannochloropsis and Microchloropsis spp</p> <p>Also just picked up that you have A-5 Photosynthetic Protists Order Thraustochytriales Thraustochytrids is single entry Please note that Thraustochytrids are NON photosynthetic</p>	<p>Changes made to the Standard</p> <ul style="list-style-type: none"> • Change to the definition of an Aquatic Plant • Deleted definition for plant • Changed group from Photosynthetic protists to Aquatic Protists <p>No new names can be introduced at this stage of the process.</p> <p>Will need an application in the future</p>
	Flowering Plants	
	<p>Here is a new Australian aquatic plant, the description is in German. It was published in a German book and the Halotypes were deposited in NT Herbarium and another in Berlin. Description of <i>Limnophila wilsonii</i> in 4th edition of “<i>Aquarien Pflanzen</i>” by Christel Kasselman, published by Ulmer 2019. There is a English translation attached.</p> <p>Project Manager Email: As this is a new species, it is not yet commercial, and can you confirm if it is edible.</p> <p>Response: Many of the local Limnophilas are edible, I doubt if anyone uses this <i>Limnophila wilsoni</i> as food but have not talked with the local TO's of the Moyle River area, L.fragrans and L.aromatica are used as food by Aborigines and L.aromatica is used in Asia and sold at the NT markets at Asian stalls, they call it Buffalo Spinach. I can ask Ian Morris or Glenn Wightman, they have been working with the original locals up this way.</p>	<p>No change</p> <p>Not a commercial species currently</p> <p>No new names can be introduced at this stage of the process.</p> <p>Will need an application in the future</p>

Appendix 5 –List of approved Aquatic Plant Names

This is Annex A of AS5301 the Australian Standard for Aquatic Plant Names

A-1 Brown Algae

CAAB Code	Approved Standard Name	Scientific Name	Authority
Order Ectocarpales			
Family Chordariaceae			
54 012912	MOZUKU	<i>Chordaria, Cladosiphon, Myriogloea, Nemacystus & Tinocladia</i> spp.	
Family Scytosiphonaceae			
54 050904	HABANORI	<i>Petalonia</i> spp.	
Order Fucales			
Family Durvillaeaceae			
54 095901	BULL KELP	<i>Durvillaea</i> spp.	
Family Fucaceae			
54 101005	Knotted Wrack	<i>Ascophyllum nodosum</i>	(Linnaeus, 1753) Le Jolis, 1863
54 101006	Bladder Wrack	<i>Fucus vesiculosus</i>	Linnaeus, 1753
54 101903	ROCKWEED	<i>Fucus</i> spp.	
Family Himanthaliaceae			
54 104001	Sea Spaghetti	<i>Himanthalia elongata</i>	(Linnaeus, 1753) S. F. Gray, 1821
Family Hormosiraceae			
54 100001	Neptune's Necklace	<i>Hormosira banksii</i>	(Turner, 1808) Decaisne, 1842
Family Sargassaceae			
54 105077	Hijiki	<i>Sargassum fusiforme</i>	(Harvey, 1860) Setchell, 1931
Family Seirococcaceae			
54 102001	Crayweed	<i>Phyllospora comosa</i>	(Labillardière, 1807) C. Agardh, 1839
Order Laminariales			
Family Alariaceae			
54 080004	Winged Kelp	<i>Alaria esculenta</i>	(Linnaeus, 1767) Greville, 1830
54 080002	Wakame [frond] Mekabu [sporophyll] Kukiwakame [midrib]	<i>Undaria pinnatifida</i>	(Harvey, 1860) Suringar, 1873
Family Laminariaceae			

CAAB Code	Approved Standard Name	Scientific Name	Authority
54 076902	KOMBU	<i>Laminaria & Saccharina</i> spp.	
54 076001	Giant Kelp	<i>Macrocystis pyrifera</i>	(Linnaeus, 1771) C. Agardh, 1820
Family Lessoniaceae			
54 079010	Kajime	<i>Ecklonia cava</i>	Kjellman, 1885
54 079009	Golden Kelp	<i>Ecklonia radiata</i>	(C. Agardh, 1817) J. Agardh, 1848
54 079901	SOUTHERN KOMBU	<i>Lessonia</i> spp.	

A-2 Cyanobacteria

CAAB Code	Approved Standard Name	Scientific Name	Authority
Order Oscillatoriales			
Family Microcoleaceae			
70 014901	SPIRULINA	<i>Limnospira</i> spp.	
Order Nostocales			
Family Aphanizomenonaceae			
70 060901	APHANIZOMENON	<i>Aphanizomenon</i> spp.	

A-3 Green Algae

CAAB Code	Standard Name	Scientific Name	Authority
Order Bryopsidales			
Family Caulerpaceae			
56 197902	SEA GRAPES	<i>Caulerpa cylindracea</i>	Sonder, 1845
		<i>Caulerpa hodgkinsoniae</i>	J. Agardh, 1887
		<i>Caulerpa lentillifera</i>	J. Agardh, 1837
		<i>Caulerpa racemosa</i>	(Forsskål, 1775) J. Agardh, 1873
		<i>Caulerpa sedoides</i>	C. Agardh, 1817
		<i>Caulerpa vesiculifera</i>	Harvey, 1859) Harvey, 1863
Family Codiaceae			
56 191902	VELVET FINGERS	<i>Codium</i> spp.	
Order Chlamydomonadales			
Family Dunaliellaceae			
56 101001	Dunaliella	<i>Dunaliella salina</i>	(Dunal, 1837) Teodoresco, 1905
Family Haematococcaceae			

CAAB Code	Standard Name	Scientific Name	Authority
56 104001	Haematococcus	<i>Haematococcus lacustris</i>	(Girod-Chantrons, 1802) Rostafinski, 1875
Order Chlorellales			
Family Chlorellaceae			
56 121901	CHLORELLA	<i>Chlorella</i> spp.	
Order Chlorodendrales			
Family Chlorodendraceae			
56 007901	TETRASELMIS	<i>Tetraselmis</i> spp.	
Order Cladophorales			
Family Cladophoraceae			
56 180001	Mermaid's Necklace	<i>Chaetomorpha coliformis</i>	(Montagne, 1842) Kützing, 1849
Order Ulvales			
Family Ulvaceae			
56 165907	SEA LETTUCES	<i>Ulva</i> spp.	

A-4 Red Algae

CAAB Code	Approved Standard Name	Scientific Name	Authority
Order Bangiales			
Family Bangiaceae			
55 010904	NORI	<i>Porphyra & Pyropia</i> spp.	
Order Bonnemaisoniales			
Family Bonnemaisoniaceae			
55 125901	ASPARAGOPSIS	<i>Asparagopsis</i> spp.	
Order Gelidiales			
55 028904	AGARWEED	<i>Gelidium</i> spp. & <i>Pterocladia</i> spp.	
Order Gigartinales			
Family Gigartinaceae			
55 053033	Irish Moss	<i>Chondrus crispus</i>	Stackhouse, 1797
Family Solieriaceae			
55 056914	JELLYWEED	<i>Betaphycus & Eucheuma</i> spp.	
55 056912	SOLIERIA	<i>Solieria</i> spp.	
Order Gracilariales			
Family Gracilariaceae			

CAAB Code	Approved Standard Name	Scientific Name	Authority
55 106902	GRACILARIA	<i>Gracilaria</i> spp.	
Order Halymeniales			
Family Halymeniaceae			
55 095050	Red Sea Lettuce	<i>Grateloupia turuturu</i>	Yamada, 1941

A-5 Aquatic Protists

CAAB Code	Approved Standard Name	Scientific Name	Authority
Order Thraustochytriales			
Family Thraustochytriaceae			
53 701000	THRAUSTOCHYTRIDS	Thraustochytriaceae – undifferentiated	

A-6 Flowering Plants

CAAB Code	Approved Standard Name	Scientific Name	Authority
Order Apiales			
Family Apiaceae			
63 460001	Water Celery	<i>Oenanthe javanica</i>	de Candolle, 1830
63 460002	Lebanese Cress	<i>Helosciadium nodiflorum</i>	(Linnaeus, 1753) W. D. J. Koch, 2010
Order Brassicales			
Family Brassicaceae			
63 220002	Watercress	<i>Nasturtium officinale</i>	W. T. Aiton, 1812
Order Caryophyllales			
Family Chenopodiaceae			
63 145903	SAMPHIRES	<i>Salicornia & Tecticornia</i> spp.	
Order Nymphaeales			
Family Nelumbonaceae			
63 050901	WATER LILIES	<i>Nymphaea</i> spp.	
63 050001	Blue Water Lily	<i>Nymphaea gigantea</i>	W. J. Hooker, 1852
Order Lamiales			
Family Plantaginaceae			
63 470001	Buffalo Spinach	<i>Limnophila aromatica</i>	(Lamarck, 1786) Merrill, 1917
63 470902	WATER HYSSOP	<i>Bacopa</i> spp.	
Order Poales			

CAAB Code	Approved Standard Name	Scientific Name	Authority
Family Cyperaceae			
63 640001	Chinese Water Chestnut	<i>Eleocharis dulcis</i>	(N. L. Burman, 1768) Trinius ex Henschel, 1833
Order Proteales			
Family Nelumbonaceae			
63 120001	Lotus	<i>Nelumbo nucifera</i>	J. Gaertner, 1788
Order Solanales			
Family Convolvulaceae			
63 480001	Kang Kong	<i>Ipomoea aquatica</i>	Forskål, 1775