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# **Seafood Industry Partnerships in Schools Phase 2 Program**

**Final Report**

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## Seafood Industry Partnerships in Schools - Phase 2 Program

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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

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OceanWatch Australia also acknowledges the NSW Department of Education and Communities, Tasmanian Department of Education, Sydney Fish Market, Tasmanian Seafood Industry Council and the Woodbridge Marine Discovery Centre. We also thank the many teachers and students for their enthusiastic support of the SIPS program.

## Abbreviations

DEEWR	Department of Education, Employment and Workplace Relations
FRDC	Fisheries Research and Development Corporation
HSIE	Human Society and its Environment (school curriculum key learning area)
NSW	New South Wales
OHS	Occupational Health and Safety
SIPS	Seafood Industry Partnerships in Schools
SAKGF	Stephanie Alexander Kitchen Garden Foundation

# Executive Summary

Seafood Industry Partnerships in Schools - Phase 2 Program (SIPS) was an innovative program carried out by OceanWatch Australia during 2012-2013, to open a new channel of communication between the seafood industry and the community.

Through SIPS, primary and secondary school students in NSW and Tasmania were given an opportunity to learn about the Australian seafood industry directly from the people who know it best: those who work in it. Fishermen, aquaculturalists and other seafood workers volunteered their time to engage with local school classes, primarily through excursions and school visits, sharing their knowledge and experience and creating some fresh, positive perceptions of the industry in the process. The feedback received from schools participating in SIPS was overwhelmingly favourable.

The SIPS program first began in 2009 as a trial involving OceanWatch Australia's Tasmanian SeaNet Officer, commercial fisherman Bryan Denny, and Lauderdale Primary School in southern Tasmania. In 2010, the concept was formalised into a partnership between OceanWatch Australia, the Tasmanian Seafood Industry Council, the Tasmanian Department of Education, and members of the local seafood industry. As a result of this successful project SIPS won the 2011 Tasmanian Seafood Industry Award for Promotion.

In 2012, SIPS Phase 2 began. While continuing to operate in Tasmania, the program expanded to include NSW, focusing on the metropolitan areas of Sydney, Newcastle and Wollongong. SIPS Phase 2 was officially launched in Sydney on 30 November 2012, and ran from Term 1 to Term 4 of the 2013 school year.

A general lack of knowledge and understanding about the Australian seafood industry and how it operates, combined with consistently negative publicity, has contributed to an overall poor public perception of the seafood industry. A lack of opportunity for industry workers to engage with their local communities and 'tell their story' has exacerbated the problem.

The core objectives of SIPS were to:

- facilitate educational partnerships between schools and industry operators
- increase community understanding of the complexities of marine resource utilisation
- increase industry capacity to tell its story to the community.

Using commercial fishermen, aquaculturalists and other workers as educators and advocates for the seafood industry, SIPS aimed to use communicate three key messages to its target audience.

1. The seafood industry utilises a resource on behalf of the whole community, and spreads economic benefits across the community.
2. The seafood industry recognises the importance of ecological sustainability and improving its environmental performance.
3. The seafood industry offers career opportunities across a range of occupations.

The main focus of SIPS was on creating partnerships between schools and the seafood industry. In NSW, program activities mostly involved school excursions to local Fishermen's Cooperatives or Fish Markets and incursions by commercial fishermen, with some visits to oyster farms and a small number of 'virtual excursions' by videoconference. In Tasmania, additional activities included visits to hatcheries and seafood processors.

Industry participants were mainly recruited through Fishermen's Cooperatives and other industry-related groups such as oyster farmer collectives, as well as professional contacts of OceanWatch Australia. Schools were mainly targeted through relevant associations, such as the NSW Marine Teachers' Association, and through programs and organisations with existing school networks, such as the Hunter-Central Rivers Catchment Management Authority, and the Department of Education, Employment and Workplace Relations (DEEWR) School Business Community Partnership Brokers program.

Through SIPS, 58 partnerships were created between schools and seafood industry representatives. A total of 39 schools were involved; just over half of these were primary schools. The majority of schools indicated they would like to remain involved with their local seafood industry in the future.

A total of 34 seafood industry workers participated in SIPS, including commercial fishermen, aquaculturalists, seafood processors, and other industry professionals. Many of these workers had had no contact with schools in the past. Feedback from industry partners indicated that they found the experience a positive one, not only enjoying the opportunity to interact with school students, but finding that sharing their knowledge and experiences made them feel good about themselves and their work.

SIPS reached an audience of approximately 1700 students and 113 teachers. Feedback from schools indicated that their participation in the program had significantly improved knowledge and understanding of the seafood industry, both for students and teachers. SIPS also had a broader reach into the community through involvement in events such as fetes and shows, as well as through online and print media and publications, helping raise the profile of the seafood industry in target areas.

SIPS provided a new forum for the seafood industry to convey some important messages to the community, including those about sustainability. Feedback from industry partners points to participants not only enjoying the opportunity to interact with school students, but also experiencing a boost in self esteem as a result. Through SIPS, seafood industry representatives became more involved with their local communities and are now better equipped for future community engagement.

SIPS also had a significant impact on the students and teachers who participated, improving their knowledge and perception of the seafood industry and its role in the community. This improved understanding is exactly what the seafood industry needs in terms of gaining social licence to operate. The face-to-face interactions students were able to have with industry workers through SIPS are likely to have created a lasting impression for many, and may have 'planted the seed' for some in terms of possible careers in the industry. Connections have been made between teachers and local industry workers, many of which are likely to continue into the future.

To capitalise on the success of SIPS and extend its impact, it is recommended that a similar program of engagement between the seafood industry and schools be implemented in all states and territories. It is also recommended where possible, for the continuation of activities in NSW and Tasmania through the industry peak bodies. Strong encouragement is given to organisations such as the Women's Seafood Industry Network to play a strong lead in future projects/programs. Schools all over Australia, particularly those offering marine related courses, would derive substantial benefit from the direct contact with seafood industry workers that a program such as SIPS provides. Whilst the initial reach of this program has been significant with a 113 teachers participating, it is acknowledged that this is only a small fraction of the 290,854 Australian primary and secondary teachers working in schools across Australia that has been reached and influenced.

# Introduction

A general lack of community knowledge and understanding about Australia's seafood industry – particularly commercial fishing practices – combined with consistently negative publicity in the media, has contributed to an overall poor public perception of the seafood industry. A lack of opportunity for industry workers to engage with their local communities and 'tell their story' has exacerbated the problem.

The idea behind SIPS was to directly target primary and secondary schools, educating students and their teachers about the 'real' seafood industry, addressing major misconceptions and showing first-hand what the industry is all about. Schools represent an ideal target audience for projects such as SIPS, which ultimately seek to change community attitudes 'from the bottom up'. School students are of an impressionable age and are still developing their views and opinions. They often have a strong influence on their friends and families, and will grow up to take on potentially influential roles within their communities.

SIPS first began in 2009 as a trial involving OceanWatch Australia's Tasmanian SeaNet Officer, commercial fisherman Bryan Denny, and Lauderdale Primary School in southern Tasmania. In 2010, the concept was formalised into a partnership between OceanWatch Australia, the Tasmanian Seafood Industry Council, Tasmanian Department of Education, and members of the local seafood industry, and was run as a pilot program funded by the FRDC. Following the success of the pilot, the program was expanded (SIPS II) in 2012 to include NSW, focusing on the metropolitan areas of Sydney, Newcastle and Wollongong. SIPS II was launched in Sydney on 30 November 2012, and ran from Term 1 to Term 4 of the 2013 school year. During this time, the program also continued to operate in Tasmania.

## Objectives

The objectives of the project, as agreed in the contract, were to:

- facilitate educational partnerships between schools and industry operators
- increase community understanding of the complexities of marine resource utilisation
- increase industry capacity to tell its story to the community.

Using commercial fishermen, aquaculturalists and other workers as educators and advocates for the seafood industry, SIPS aimed to use communicate three key messages to its target audience.

1. The seafood industry utilises a resource on behalf of, and to the benefit of, the whole community.
2. The seafood industry recognises the importance of ecological sustainability and improving its environmental performance.
3. The seafood industry offers career opportunities across a range of occupations.

## Methodology

The focus of SIPS was on creating partnerships between schools and the seafood industry. School groups who chose to take part in SIPS were partnered with a local wild-catch or estuary fisher, aquaculturalist, or other type of seafood industry worker. The intention of providing an industry partner for each school group was to personalise the program, creating a focus on people (rather than organisations or industry as a whole), and making the experience and its teachings more accessible and meaningful to students in the process. Partnerships were deliberately kept flexible – able to be tailored to suit different year groups, subjects, and interests – and were of negotiable duration.

### Activities and resources

Partnership activities offered through SIPS included:

- school excursions (e.g. to a fishermen's cooperative, aquaculture facility, or seafood processor)
- school visits by industry (e.g. by a local fisher, oyster farmer, or other industry representative)
- videoconferences ('virtual excursions' presented by SIPS at the Australian Museum, Sydney, and delivered to participating schools through an online hook-up)

All SIPS activities included interaction between school groups and local seafood industry workers. Presentations to school groups, whether at the school or elsewhere, centred on an explanation of the work of the industry partner, and incorporated the three key messages of SIPS (sustainability etc). Props such as freshly caught seafood, maps, fishing nets, and by-catch reduction devices were used, together with stimulus materials such as short videos about the seafood industry, available on the OceanWatch YouTube channel (e.g. Professional Fisherman - Richie Bagnato; SeaNet NSW Hawkesbury River Estuary Prawn Trawl).

Hands-on activities were incorporated when possible, such as teaching students to tie common fishing knots in rope, and mend fishing nets with needle and twine. Practical demonstrations such as the filleting of fish (by fishers) and testing and shucking of oysters (by oyster farmers) were also included.

In collaboration with the Stephanie Alexander Kitchen Garden Foundation negotiated late in 2013, fishers visiting schools brought local seafood with them and helped the students cook a simple recipe supplied by the Master Fish Merchants Association of Australia using that seafood. Following the eating of the prepared meal, a discussion of how the seafood was caught, and its value as a food.

To support industry partners to deliver SIPS activities, the following resources ('Industry Kit') were provided.

- Notes for Industry Partners (outline of responsibilities, etc)
- Guide to excursions and school visits (one version for fishermen, one for oyster farmers, one for Fishermen's Cooperative staff - all outlining SIPS activities and how to adjust these to suit different class groups)
- Australian Seafood Industry fact sheet

Resources offered to teachers who participated in SIPS ('Teacher's Kit') included:

- Notes for Teachers (introduction to SIPS activities, etc)
- Teaching resources (links to online teacher guides / lesson plans, games, videos, industry-related fact sheets, and useful websites)
- Australian Seafood Industry fact sheet
- Seafood Careers fact sheet
- Guide to SIPS excursions and incursions



## **Recruitment of industry partners**

Strategies for enlisting seafood industry workers to participate in SIPS included:

- using contacts already known to OceanWatch executive, staff and Board members
- asking managers of cooperatives and other industry groups to suggest potential industry partners and to promote SIPS to their members, e.g. by placing information on noticeboards
- promoting SIPS through industry-related bodies (e.g. Professional Fishermen's Association)
- publicising SIPS through industry-related publications (e.g. OWA newsletter, *Fishing Today* magazine).

## **Promotion to schools**

The SIPS program was offered to public and private schools in NSW and Tasmania, and was open to both primary and secondary schools, spanning all year groups from Kindergarten through to Year 12.

Strategies for recruiting schools to participate in SIPS included:

- using contacts already known to OceanWatch executive, staff and Board members
- collaborating with individuals known to have existing school contacts in target areas (e.g. Learning Engagement Officer, Hunter Central Rivers Catchment Management Authority)
- collaborating with organisations with existing school contacts in target areas e.g. Department of Education, Employment and Workplace Relations (DEEWR) [School Business Community Partnership Brokers program](#)
- contacting Principals of schools in specific target areas (e.g. schools in close proximity to the Sydney Fish Market) by email/fax/phone
- contacting heads of school communities in target areas (e.g. Shoalhaven River Learning Community)
- promoting SIPS through relevant teacher associations (e.g. NSW Marine Teachers' Association)
- having a presence at events attended by schools (e.g. Seafest, Newcastle Show).

## **Creating partnerships**

In the first instance, the focus was on identifying suitable industry partners in target geographical areas. Industry partners were asked to indicate their availability to host school excursions, whether they were prepared to visit schools and, if so, in which geographical areas. Participants were then provided with an Industry Partner's Kit.

Once suitable industry workers had been recruited to participate in the program, the focus shifted to targeting schools within those areas. Schools in target areas were sent introductory information about SIPS (directly and/ or through an existing contact), and asked to contact the SIPS Project Officer if interested in a partnership. Schools who expressed interest were sent detailed information about the program, and asked to indicate their needs, interests and preferences with regards to type of industry partner (e.g. fisher, aquaculturalist), type of activity (e.g. excursion, incursion), year group, suitable timing, and what they would like to gain from their involvement in the program.

Each school group was then partnered with a suitable industry worker, and arrangements made to book a mutually convenient date, time and venue for a SIPS activity or activities (e.g. excursion to a local oyster farm, school visit by a local fisher). The booking teacher was also provided with a Teacher's Kit, which included a guide to SIPS and a collection of relevant resources.

## Staff and Steering Committee

SIPS was coordinated by two part-time Project Officers, one in NSW (0.6 FTE) and one in Tasmania (0.2 FTE). Each Project Officer coordinated the program in their State under the general guidance of a Steering Committee, comprised of industry and education representatives participating on a voluntary basis. Committee members met approximately once per school term to discuss the progress of the program toward agreed project milestones, as well as obstacles and potential solutions, and any other relevant matters. Committee members were also available at other times to offer support and advice to the Project Officers.

## Evaluation

All SIPS partners were asked to provide feedback on their experiences with the program. Feedback from participating teachers was obtained via evaluation forms, which were filled out following excursions and incursions, and additional comments made by email. Several phone interviews were done with a representative sample of teachers to provide more in-depth feedback. Teachers who expressed interest in SIPS but did not follow through with booking activities by September 2013 were also invited to provide feedback re their non-participation.

Feedback from industry workers who participated in SIPS was obtained through conversations via email, over the phone, or in person. Phone interviews were also done with a selection of partners for more detailed feedback.

Quantitative data was collected throughout the program, including numbers of participating schools, classes, students, teachers, and industry partners.

# Results

## Program statistics

### *Participation by schools*

During SIPS, a total of 58 partnerships were created between school groups and the seafood industry, with an audience of close to 1700 students reached. A summary of school participants in SIPS is given in Table 1.

Table 1. School participants in SIPS

<b>Participants</b>	<b>Number</b>
NSW:	
Schools	34
Classes/Groups	48
Students	1463
Teachers	104

<b>TAS:</b>	
Schools	5
Classes/Groups	10
Students	250
Teachers	12
<b>TOTALS</b>	
Schools	39
Classes/Groups	57
Students	1713
Teachers	113

Participating schools in NSW included those in the metropolitan areas of Sydney and Newcastle, in the coastal districts of Port Stephens, Coffs Harbour, the Shoalhaven, Central Coast and Great Lakes, and a small number in inland regional locations. In Tasmania, participating schools were mainly from in and around Hobart. Table 2 shows the breakdown of schools and their locations.

Table 2. Location of participating schools

<b>Geographical area</b>	<b>Number of schools</b>
<b>NSW:</b>	
Sydney	7
Central Coast	1
Newcastle	11
Port Stephens	2
Great Lakes	3
Coffs Harbour	5
Illawarra / Shoalhaven	1
Inland regional areas	4
<b>TAS:</b>	
Hobart and surrounds	3
East coast	2
<b>TOTAL</b>	<b>39</b>

The split of Primary versus High School participants in SIPS was roughly 50/50, although slightly more secondary schools were involved in the program. Table 3 shows the details of all partnerships formed through SIPS, including the year level and subject area of participating student groups.

Table 3. Partnerships between schools and the seafood industry created through SIPS

Region	School	Year & Subject	Activities
NSW			
Sydney	Glebe Public	Yr 3/4 HSIE	SIPS NSW launch
Sydney	St John's Narraweena	All of school	SIPS activities at school fete
Sydney	Glebe Public	Yr 3/4 HSIE	Excursion to Sydney Fish Market
Sydney	Glebe Public	Yr 4/5 HSIE	Excursion to Sydney Fish Market
Sydney	Glebe Public	Yr 5/6 HSIE	Excursion to Sydney Fish Market
Sydney	Glebe Public	Year 3 HSIE	Clean Up event with industry
Sydney	Maroota Primary	All of school	Videoconference (virtual excursion)
Sydney	Maroota Primary	K-6 HSIE	Visit to school by fishermen
Sydney	Matraville Sports High	Yr 10 Hospitality	Excursion to Sydney Fish Market
Sydney	Lucas Heights Community School	Yr 10 Marine Studies	Excursion to Sydney Fish Market
Sydney	Old Guildford Primary	Yr 3 Cooking	Visit to school by fisherman
Sydney	Old Guildford Primary	Yr 4 Cooking	Visit to school by fisherman
Sydney	Tbc	Yrs 6-8	Videoconference with fisherman
Central Coast	Hopetown School	Yr 8-11 mixed	Excursion to Sydney Fish Market
Newcastle	Mayfield East Primary	Yr 3/4 Cooking	Visit to school by fisherman
Newcastle	Newcastle Grammar	Yr 6 mixed	Excursion to Newcastle Fishermen's Coop (launch event)
Newcastle	Lake Macquarie High	Yr 7-10 mixed	Newcastle Show activities
Newcastle	Belmont High	Yr 7-10 mixed	Newcastle Show activities
Newcastle	Carrington Public	Yr 5/6	Excursion to Newcastle Fishermen's Coop
Newcastle	Callaghan College	Yr 10 Hospitality	Excursion to Newcastle Fishermen's Coop
Newcastle	Lambton High	Yr 9/10 Marine Studies	Excursion to Newcastle Fishermen's Coop
Newcastle	Glendale Technology High	Yr 7/8 HSIE	Excursion to Newcastle Fishermen's Coop
Newcastle	Glendale Technology High	Yr 7-10 (Special Needs class)	Excursion to Newcastle Fishermen's Coop
Newcastle	Kotara High	Yr 9/10 Marine Studies	Excursion to Newcastle Fishermen's Coop
Newcastle	St Paul's Primary	Yr 1/2 HSIE	Visit to school by fisherman
Newcastle	St Francis Xavier's	Yr 11 Geography	Excursion to Oyster Farm
Newcastle	St Philip's Christian Cllge	Yr 9/10 Marine Studies	Excursion to Port Stephens Fishermen's Coop
Newcastle	St Philip's Christian Cllge	Yr 9/10 Marine Science	Excursion to Oyster Farm

Newcastle	St Philip's Christian Cllge	Yr 9/10 Marine Studies	Visit to school by fishermen
Newcastle	Bob's Farm Public School	Yr 1-6 HSIE	Excursion to Oyster Farm
North Coast	Great Lakes College	Yr 10 Marine Studies	Visit to school by fisherman
North Coast	Great Lakes College	Yr 10 Marine Studies	Excursion to Coffs Harbour Fishermen's Coop
North Coast	Orara High School	Yr 10 Marine Studies	Excursion to Coffs Harbour Fishermen's Coop
North Coast	St Patricks	Kindergarten	Excursion to Coffs Harbour Fishermen's Coop
North Coast	Holy Name School	Yr 3/4 HSIE	Excursion to Wallis Lake Fishermen's Coop
North Coast	Coffs Harbour Christian Community School	Yr 4/5 Sports	Excursion to Coffs Harbour Fishermen's Coop
North Coast	Coffs Harbour Christian Community School	Yr 4/5 Sports	Visit to school by fisherman
North Coast	Coffs Harbour Christian Community School	Yr 4/5 Sports	Excursion to Coffs Harbour Fishermen's Coop
North Coast	Dundurrabin Primary	Yr 3-6	Videoconference (virtual excursion)
North Coast	Tuncurry Public	Yr 1 HSIE	Excursion to Wallis Lake Fishermen's Coop
North Coast	St Augustine's	Kindergarten	Excursion to Coffs Harbour Fishermen's Coop
North Coast	Sandy Beach Public	Yr 3 HSIE	Excursion to Coffs Harbour Fishermen's Coop
Illawarra	Shoalhaven High School	Yr 11-12 Marine Studies	Excursion to Sydney Fish Market
Illawarra	Shoalhaven High	Yr 12 Marine Studies	Excursion to Oyster Farm
Illawarra	Shoalhaven High	Yr 12 Marine Studies	Excursion to Oyster Processor
Regional inland	Mathoura Public School	Yr ¾	Videoconference (virtual excursion)
Regional inland	Glen Innes Public	Yr 5/6	Videoconference (virtual excursion)
Regional Inland	South Grafton Primary	Yr ¾	Videoconference (virtual excursion)
TAS			
South	St Virgils College	Yr 9 Aquatic Biology	Visit to school by fisherman
East	Triabunna Area School	Yr 5-6	Seafest
East	Triabunna Area School	Yr 7	Seafest
East	Triabunna Area School	Yr 8	Seafest

East	Triabunna Area School	Yr 9	Seafest
East	Triabunna Area School	Yr 10	Seafest
South	Jordan River Learning Federation	Yr 9 & 10	Excursion to Highland Pacific Eels
South	Molesworth Primary School	Yr 5 & 6	Excursion to Tassal salmon hatchery
South	St Virgils College	Yr 9 Aquatic Biology	Excursion to seafood processor
North-East	St Helens Area School	All of school	Salty Seas marine debris clean-up
TOTAL 58 partnerships			

### *Industry participation*

A total of 34 seafood workers were involved in SIPS as 'industry partners', presenting to and engaging with school groups during excursions and incursions. Industry partners included a range of fishermen and aquaculturalists, seafood processing workers, and other industry representatives. Table 4 summarises these participants.

Table 4. Industry participants in SIPS

NSW:	
Commercial fishers	18
Aquaculturalists	4
Other seafood industry representatives	5
TAS:	
Commercial fishers	2
Aquaculturalists	3
Other seafood industry representatives	2
<b>TOTAL</b>	<b>34</b>

### **SIPS activities**

SIPS engaged school groups with seafood industry workers primarily through visits to schools (incursions), and excursions to Fishermen's Cooperatives, aquaculture facilities, and processing facilities.

In NSW, the most booked activities were excursions to local Fishermen's Cooperatives (23), followed by incursions by fishers (8), with virtual excursions (videoconferencing), joint school-industry marine clean-up activities, and industry involvement in school fetes and regional shows making up the remainder of partnership activities. In Tasmania, partnerships mainly involved school groups engaging with industry representatives at events such as SeaFest, and excursions to an eel fishery, salmon hatchery, and seafood processor.

In addition to these partnership activities, SIPS achieved a broader reach into local communities through publications such as newspapers, magazines and newsletters, and social media, websites and other communications channels. The launch of the SIPS program in Sydney in November 2012 and in Newcastle in February 2013 also proved excellent opportunities for the seafood industry to engage with community members and representatives from a range of sectors.

### **Feedback from participants**

#### *Teacher feedback*

The feedback received from schools participating in SIPS was overwhelmingly favourable.

On the evaluation forms received from teachers directly involved in SIPS activities, almost 90% of respondents ranked their experience as '**Excellent**' (52%) or '**Very Good**' (36%).

Most respondents said their students '**Loved it**' (44%) or '**Mostly enjoyed it**' (44%), and described their industry partner as either 'Excellent' (60%) or 'Very Good' (24%).

Qualitative feedback from teachers who participated in SIPS was obtained via evaluation forms and additional comments made by email. A representative sample of teachers was interviewed by phone to provide more in-depth feedback. A selection of comments received from teachers is provided below:

***'As a teacher, I learnt a lot about our local industry and am definitely better informed. The contact made with fishers from our community was very valuable, and I am now feeling far more connected with my local fishing industry. Thanks so much.'***

Teacher, St Philip's Christian College, Port Stephens

***'I'm excited to begin this partnership. The more hands-on experiential learning and community involvement, the more the students can see the relevance and importance of what they are learning.'***

Teacher, Shoalhaven High School, Nowra

***'The kids loved being hands on with the seafood. They held a tied up mud crab, and a big dolphin fish, and we tasted some seaweed. The equipment explanation was good too. Thanks again and please keep in touch with anything do to with the seafood industry, as I have some VERY enthusiastic students in this marine studies area.'***

Teacher, Glendale Technology High School, Newcastle

***'The Fishermen's Co-Op was great. It was alive with activity when we were there – boats unloading, catch being sorted, fish being filleted. Greg [our industry partner, who visited our school] was also great. We will definitely ask him again next year. The kids loved the mud crabs, and his talk and stories were spot on.'***

Teacher, Great Lakes College, Forster

***'My knowledge of the seafood industry doubled as a result of participating in SIPS, and I would say the students' knowledge tripled. Overall, I always thought the concept of sustainable fishing was a bit of a myth, but it became obvious through the personal interaction with fishermen that they talk and live sustainability.'***

Teacher, Lucas Heights Community School, Sydney

***'I just wanted to extend a big thank you to you. The day was a great success and the children really enjoyed the practical and informative lesson presented. The dish prepared and cooked was a success, with Michael and Mary been really hands on with the children, which is part of what the project is about! We hope to hear from you next year to possibly have a lesson with the older children, who I know would benefit from this lesson as well.'***

Kitchen Specialist, Old Guildford Public School, Sydney - collaboration with Stephanie Alexander Kitchen Garden Foundation

Teachers who registered their interest in SIPS, but did not follow through with booking activities, were invited to provide feedback regarding their non-participation. Invariably, responses received were along the lines that they had not ruled out the possibility of getting involved with the project, but had been too busy to organise anything to date.

### *Student feedback*

Student feedback was not formally requested. However, some unofficial feedback was received from students, with one class sending in thank-you cards for the fishermen they met on excursion, and another group making artworks inspired by some fish they took back to school following an excursion to the Sydney Fish Market. It was clear from observations of students participating in SIPS activities, together with the comments they made during activities, that most thoroughly enjoyed their experiences.



## *Industry feedback*

Feedback from industry workers who participated in SIPS was obtained via comments made by email, over the phone, or in person. Phone interviews were also carried out with a selection of partners, to provide more detailed feedback. A selection of comments made by industry partners follows.

*'I think fishermen are sometimes frustrated from the bad public perception out there,'* said one fisher. *'The SIPS program gives you a chance to talk with students and let them know where we are coming from, and this provides relief to the frustration. It is a weight off your shoulders and makes you feel good.'*

*'Involvement in teaching kids about what is really happening, this is very important to me,'* said another fisherman. *'Just to provide the fisher's point of view. Information on the fishing industry, on the news most of time, is not first-hand and not the truth.'*

*'I think it's important to engage with the community, as they are waterway stakeholders; they need to be on-side and understand that the industry is environmentally conscious,'* commented a NSW oyster farmer. *'It's important to hear things when you're young - it sticks. For oystering, from a marketing perspective, we need the next generation to understand. They are future oyster eaters.'*

# Discussion

## Facilitating educational partnerships

SIPS exceeded its original goal of achieving 45 partnerships between school groups and seafood industry workers, with a total of 54 partnerships created by the project's end. This result was largely achieved in only three school terms, since the project was not launched in NSW until the end of 2012. Given the usually slow uptake of new programs by schools, and the lead time normally needed to book activities on the busy school calendar, this is a very good outcome.

While most school groups involved in SIPS participated in a single activity – usually an excursion, incursion or videoconference – most indicated they would likely seek to do the same activity, and possibly additional activities, in following years. While SIPS as a project may not be on offer in following years, many teachers are likely to contact their local seafood industry directly, having already made the necessary contacts through SIPS.

Schools in NSW who participated in SIPS included those in the three target metropolitan areas (Sydney, Newcastle and the Illawarra), as well as those in the regional areas of the Central Coast, Great Lakes district (Forster-Tuncurry), and Coffs Harbour. Of these areas, the project was most popular in the Newcastle region, probably partly because the fishing industry here is quite visible, and partly because the project was promoted through a very effective network of existing teacher contacts. SIPS was also popular on the coast to the north of Newcastle.

Schools in Sydney proved harder than those in other areas to get involved, with SIPS effectively competing with a huge array of other projects on offer to schools in the metropolitan area. Although 15 Sydney schools expressed interest in becoming involved, only 6 actually booked activities in 2013. (Most of those who didn't book indicated they had been too busy but may book the following year, or that they usually booked activities such as excursions 12 months in advance.) Feedback provided by, Sydney-based DEEWR Partnership Brokers, who helped promote SIPS through their school networks, indicated they considered the response to SIPS by schools in their areas to be typical. *'Things happen slowly in schools to get off the ground, but once you have a school on board they will probably keep coming year after year,'* commented one Broker.

In the Wollongong area, despite being promoted through both the local DEEWR Partnership Broker and the Shoalhaven River Learning Community, SIPS did not gain much traction. One of two local high schools offering a course in Marine Science participated in three excursions, while one primary school expressed interest but did not progress to booking activities. It may be that schools in the Eurobodalla region and further south may be a more responsive audience to this type of program, with the fishing and oyster industries more visible in this region. In Tasmania, SIPS was not able to gain as great a momentum as in NSW, partly due to reduced staffing (Project Officer 0.2 FTE). However, 10 partnerships were created here, with all participating schools expressing strong interest in future engagement with the local seafood industry.

At the outset of SIPS, gaining sufficient industry involvement in the program was anticipated to be a significant limiting factor, since seafood industry workers were being asked to participate on a voluntary basis. As it transpired, although no workers took the initiative of approaching the SIPS Project Officers to volunteer, almost all workers who were approached and asked if they were willing to participate in the program willingly agreed to do so. The feedback received from industry partners indicated that they saw SIPS as an opportunity to not only explain what they do for a living, but to communicate some key messages about how the 'real' seafood industry operates in Australia and set the record straight, so to speak.

## Curriculum Links

During this project roll-out the national curriculum was being introduced, with its roll-out in the two states of Tasmania and New South Wales at different stages. Linking SIPS to the curriculum of the target schools was important as it provided essential and immediate relevance for teachers as to the benefits of participation. However, pitching the project at certain sections of the national curriculum was difficult, as

there were so many potential applications/opportunities. SIPS activities could enhance linkages with the curriculum, and provide valuable experiences to students, and this was recognised, from the onset by the SIPS Steering Committee and borne out in the teacher evaluation. The pertinent question on curriculum linkages was - how much depth in providing curriculum resources should SIPS create, in order to assist teachers with curriculum linkages so that the SIPS program would be of interest to the teachers of the targeted schools.

SIPS investigated two approaches. To either; a) decide on curriculum age group/topic and develop specific teaching resources and offer only opportunities for those specific topic/age groups classes and teachers; or, b) develop broad curriculum links to interest as many teachers as possible, and then tailor activities to suit those enrolled in the project as partners.

Previously OceanWatch Australia had experience of developing curriculum linked resources in NSW through support from the Myer Foundation for key stage 3, and from the NSW Environmental Trust for Geography -Year 10. By being curriculum linked the risk to project and project legacy was the curriculum could overtake the project and change – (e.g. national curriculum introduction); whilst these two previous resources are useful and relevant from an industry information perspective, they are not relevant for today's curriculum as they were at their creation in 2005 and 2008 respectively.

The SIPS Steering Committee decided to pursue scenario b) – to be inclusive, and be open to as many teachers/schools as possible, but recognising that this would be at a cost of being highly curriculum relevant. This decision did make the project more flexible to work broadly, but undoubtedly some schools needed stronger linkages. AS the project was dealing with relatively small numbers of partnerships, this did allow for a fair amount of customising by the Project Officer to focus on specific topics.

Following the interaction SIPS had with SAKGF, where the focus of the entire program is on one age group – 8year olds, it would be very pertinent to develop any future SIPS program with this partnership in mind. Project Officer feedback reiterated the view that once teachers understood the “product” they certainly could see value in the immediate educational outcomes afforded by the program. It is at this “established partnership point” that greater curriculum linkages through more targeted age group/curriculum resources would possibly mean the incursions/excursions would lead more easily to further classroom activities and exploration of the multiple topics of interest to teachers and pupils (sustainable food production, food security, marine science, etc.) – certainly desirable from OceanWatch Australia's perspective on project legacy and changing community understanding and perception of the seafood industry.

### **Increasing community understanding of the complexities of marine resource utilisation**

SIPS reached a substantial audience: about 1700 school students and 113 teachers, plus a number of parents/guardians who participated in activities as volunteers. It is hoped that each of these participants, through their involvement in SIPS, left with an improved understanding of how marine resources are utilised, and the complexities of managing these resources.

Feedback from schools indicates that their participation in SIPS significantly improved knowledge and understanding of the seafood industry, both for teachers and students. Several teachers commented that SIPS had improved their understanding of sustainability in the industry, and how fishing is regulated. Importantly, each of these teachers has the ongoing opportunity to influence children through future classes taught and, in this regard, teachers are perhaps as important a target audience as students.

SIPS also had a broader reach into the community through events such as fetes, shows, festivals and conferences, as well as through media, publications and online content. Through all these channels, the project sought to raise the profile of the seafood industry in target communities, and broadcast a complete and accurate information set around how the industry operates, both day-to-day and in its long-term management.

### **Increasing industry capacity to tell its story**

SIPS provided a new audience and forum for the seafood industry, allowing it to convey some important messages about the way it operates, and increasing its capacity to 'tell its story.'

More than 30 seafood industry representatives became involved in SIPS. Many of these workers had had no, or very little, contact with schools or other sectors of their community in the past. SIPS therefore provided considerable new opportunities for these workers to engage with the community, where they might otherwise have not. These workers are now better equipped for future community engagement, with the experience of SIPS 'under their belt' and, in many cases, fresh confidence that they have a story to tell, and that people are interested in hearing it. This is clear from much of the feedback received from industry partners. Feedback also indicated that industry partners would not only consider getting involved in projects like SIPS again, but would also encourage colleagues to take up this type of opportunity in the future.

As well as providing an important new forum for the seafood industry to tell its sustainability story, SIPS provided written materials (such as fact sheets) to industry partners, which it is hoped may be useful in the future.

# Conclusion

The core objectives of SIPS were to facilitate educational partnerships between schools and industry operators, increase community understanding of the complexities of marine resource utilisation, and increase industry capacity to tell its story to the community.

SIPS achieved these objectives through the creation of 58 partnerships, which brought approximately 1700 students and 113 teachers into direct contact with local fishers, aquaculturalists, seafood processors, and other industry workers.

Feedback from participating schools indicates strong support for an educational program of this kind and the unique opportunities it affords, in terms of bringing schools and industry together. Feedback from participating seafood industry workers indicates significant satisfaction at having been provided a forum to engage with their local communities and an opportunity to tell their side of the story.

The key outcomes of SIPS were:

- the creation of a substantial number of educational partnerships between the seafood industry and NSW and Tasmanian schools
- the engagement of seafood industry workers with their local communities, to educate about the seafood industry and its commitment to sustainability
- improved public knowledge and understanding of the value and benefits of the seafood industry to the community
- improved public perception of the seafood industry and the way it operates
- an increase in the exposure of young people to the range of careers offered by the seafood industry.

# Implications

## **Implications for the seafood industry**

SIPS has impacted on the seafood industry in a number of ways. Perhaps the most important of these is by building the capacity of its workers to engage with their local communities, represent their industry, and communicate their side of the story. Through SIPS, many community members now have an improved knowledge and understanding of the seafood industry and how it operates, which may lead to a more positive outlook on the industry and increased support for its activities. A longer term impact may include an increased interest from school leavers about potential careers in the seafood industry. An additional possible impact for Fishermen's Cooperatives and aquaculture facilities who participated in SIPS by hosting school groups on excursion may be an increase in business due to an increased public profile.

## **Implications for the education sector**

SIPS has also had impacts on those in the education sector. New contacts have been made by teachers with their local seafood industry, which in many cases are likely to be used again when teaching future classes. Students involved in the program have benefited from exposure to 'real life' workers and their workplaces, and gained knowledge and insights that may improve their capacity to debate relevant issues, such as those relating to natural resource management. Schools have also benefited from the provision of locally relevant and accurate educational resources about the seafood industry, which they can use into the future.

## **Implications for others**

SIPS may have implications that extend to other organisations. For example, through its collaboration with SIPS, the Stephanie Alexander Kitchen Garden Foundation (SAKGF) has, for the first time, included a seafood component in school cooking classes. While at the time of writing this report, seafood cooking classes have only been trialled in two NSW schools, there are several hundred schools involved in the SAKGF program, and there is considerable potential to extend the concept in the future.

# Recommendations

To capitalise on the success of SIPS and to extend its impact, it is recommended that a similar program of engagement between the seafood industry and schools be considered for implementation in all other states and territories. Whilst the initial reach of this program has been significant with 113 teachers participating, it is acknowledged that this is only a small fraction of the 290,854 Australian primary and secondary teachers working in schools across Australia that could be reached and influenced. Schools all over Australia, particularly those offering marine related courses, would derive substantial benefit from the direct contact with seafood industry workers that a program such as SIPS provides.

Whilst teaching and educational resources created to date have been project state specific, it is recommended that the information now collated should be further developed to suit other locations, age groups curriculum focus.

It is also recommended where possible, for the continuation of activities in NSW and Tasmania through the industry peak bodies.

Strong encouragement is given to organisations such as the Women's Seafood Industry Network and the each state and territory peak seafood industry bodies to play a strong lead role in future projects/programs.

## Further development

This project in some ways may serve as a trial for others, showing what can be achieved in bringing schools and the seafood industry together, the strategies that work best, and the potential that exists for further interaction.

There are a number of things that could be done to further develop the relationship between the seafood industry and schools, in any given community.

1. Offer school excursions at Fishermen's Cooperatives and major fish markets (e.g. Sydney Fish Market, Melbourne Fish Market), for students to see seafood on display, watch it being processed, see fishing vessels, and learn about commercial fishing. School excursions may be run regularly (e.g. monthly), on a day and at a time that suits teaching staff. From an industry perspective, it is important for all messaging to the education sector from industry be consistent Australia-wide.
2. Collaborate with a relevant educational program that is already well-established in schools (e.g. Stephanie Alexander Kitchen Garden Foundation) to add a seafood industry component (e.g. a local fisher visits schools to give a talk and a seafood filleting/cooking demonstration).
3. Organise an industry presence at relevant careers events aimed at school students, and marine/fishing related events routinely attended by school groups (e.g. Boat Show).
4. Work with seafood industry representatives to produce one or more short videos directly aimed at school students that cover not only how seafood is caught, but how it is processed, and how it can be cooked and eaten (including a demonstration). The video clips could be used a) as a pre-excursion activity; b) during a school visit by industry; c) for broadcast during events e.g. careers expos; d) as a stand-alone in class activity.
5. Work with a relevant teacher's association to identify the specific needs of its members in teaching about the Australian seafood industry, collaboratively design activities/resources to meet those needs, and promote the availability of these to members.  
E.g. develop an excursion with the Marine Teachers Association for Stage 5 Marine Science students; develop an excursion with Technology Educators Australia for Stage 6 Food Technology students (to meet requirements for an Australian food industry case study).
6. Assist industry to develop a state/territory register of seafood industry personnel interested participation is similar SIPS activities
7. Encourage Primary Industry Education Foundation (PIEF) to develop projects and sponsorships/grants applicable to seafood
8. Encourage the Seafood Industry Peak bodies in Victoria, Tasmania and New South Wales to explore partnerships with the Stephanie Alexander Kitchen Garden Foundation (currently the SAGKF focus).
9. Encourage the State/Territory Industry Peak Bodies to develop dialogue with the appropriate Education Department.

To capitalise on the success of SIPS and extend its impact, a similar program of engagement between the seafood industry and schools would ideally be implemented in all states and territories. Schools all over Australia, particularly those offering marine related courses, would derive substantial benefit from the direct contact with seafood industry workers that a program such as SIPS provides. However, the current funding climate to encourage projects not programs, are not conducive to projects such as SIPS which seek to change perceptions. Training, education and extension activities require trust and time to develop meaningful outcomes and ongoing legacy.

# Extension and Adoption

Development of educational outputs and the extension of these outputs to the community has been the crux of the SIPS project.

Key outputs of the project included:

- educational activities (e.g. excursions and incursions)
- educational resources for teachers (e.g. online teaching resources about the seafood industry)
- educational resources for industry (e.g. Australian Seafood Industry information sheet)

Project extension was facilitated by:

- publications (both for industry and educators - see 'Project Coverage')
- media (TV, radio and print - see 'Project Coverage')
- events (including conferences e.g. Seafood Directions)
- OceanWatch social media platforms (e.g. YouTube; Facebook)
- OceanWatch website
- face-to-face contact
- email networks

Evidence of adoption of project outputs is limited at this time. However, feedback from a number of the teachers who participated in SIPS indicates that they found the educational resources provided useful in teaching their students about the seafood industry.

## Project coverage

SIPS promotions appeared regularly in several industry publications:

- *Fishing Today* magazine
- *Fish* magazine
- Professional Fishing Association magazine
- Primary Industries Education Foundation newsletter
- OceanWatch Australia newsletter
- Marine Teachers Association NSW newsletter

SIPS also featured in the media, as summarised below.

Table 5. SIPS media record

Date	Event	Media	Notes
30/11/12	SIPS NSW launch	Inner West Courier	Published 4/12/12; p 13 'Kids get a taste of fishing'
30/11/12	SIPS NSW launch	boatpoint.com.au	Published online 3/12/12 'Fishos go to school'
14/2/13	SIPS Newcastle launch	NBN TV	Interview with Brad Warren; Yr 6 Newcastle Grammar students at Coop Went to air on night time news 14/2/13



14/2/13	SIPS Newcastle launch	ABC radio	Interview with Brad Warren
1/3/13	Newcastle Show	2NUR radio	Interview with Brad Warren; live to air
1/3/13	Newcastle Show	ABC radio	Interview with Brad Warren; live to air
29/8/13	'Excellence in Environmental Practice' Award	Daily Telegraph	Article included photo of winner Richie Bagnato with Glebe Public School students on a SIPS excursion to the Sydney Fish Market.

# Project materials developed

A number of project materials were developed for SIPS target audiences.

Resources for teachers who participated in SIPS ('Teacher's Kit') included:

- Teaching resources (a list of educational resources about the seafood industry)
- Australian Seafood Industry fact sheet (relevant facts and figures about the industry)
- Seafood Careers NSW fact sheet (a summary of careers in the seafood industry)
- Notes for Teachers (details about SIPS for teachers who registered interest)
- Registration form (for teachers to register their interest in SIPS)
- Evaluation form (for teachers to give feedback on their experiences with SIPS)
- Guide to SIPS excursions and incursions
- Suggested activities by Year group
- OHS risk assessments for excursion venues (e.g. Fishermen's Cooperative)

Resources developed to support industry partners to deliver SIPS activities ('Industry Kit') included:

- Australian Seafood Industry fact sheet
- Notes for Industry Partners
- Guide to excursions and school visits –Fishermen
- Guide to excursions and school visits - Oyster Farmers
- Guide to excursions and school visits - Fishermen's Cooperative Staff

All resources are available in the Appendices section.

# Appendices

- Appendix 1: SIPS Evaluation Report**
- Appendix 2: Teacher's Kit -Teaching resources  
(a list of educational resources about the seafood industry)**
- Appendix 3: Teacher's Kit - Australian Seafood Industry fact sheet  
(relevant facts and figures about the industry)**
- Appendix 4: Teacher's Kit - Seafood Careers NSW fact sheet  
(a summary of careers in the seafood industry)**
- Appendix 5: Teacher's Kit - Notes for Teachers  
(details about SIPS for teachers who registered interest)**
- Appendix 6: Teacher's Kit - Registration form  
(for teachers to register their interest in SIPS)**
- Appendix 7: Teacher's Kit - Evaluation form  
(for teachers to give feedback on their experiences with SIPS)**
- Appendix 8: Teacher's Kit - Guide to SIPS activities involving Oyster Farmers**
- Appendix 9: Teacher's Kit - Guide to SIPS excursions to a Fish Markets/Wharf**
- Appendix 10: Teacher's Kit - Guide to School visits by a Professional Fisherman**
- Appendix 11: Industry Kit - Guide to excursions and school visits for Wildcatch Fishermen**
- Appendix 12: Industry Kit - Guide to excursions and school visits for Oyster Farmers**
- Appendix 13: Industry Kit - Guide to excursions and school visits for Fishermen's Cooperative Staff**
- Appendix 14: Industry Kit - Notes for Industry Partners**