

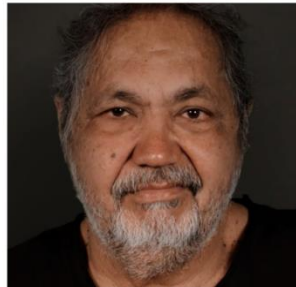


Government of **Western Australia**  
Department of Health

# Environmental Health Directorate Yearbook

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2019 - 2020 financial year report



**PLAY it  
FOOD SAFE.**  
CLEAN • SEPARATE • COOK • CHILL

This yearbook outlines the work of the Environmental Health Directorate, in the Public and Aboriginal Health Division of the Department of Health, Western Australia, for the 2019-20 financial year.



Accountability



Respect



Critical Thinking

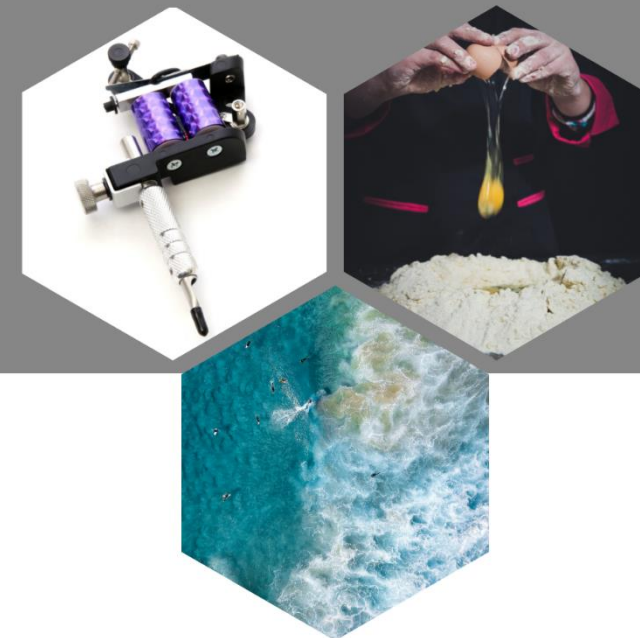


Integrity



Collaboration

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## Acknowledgment of Country and People

WA Health acknowledges the Aboriginal people of the many traditional lands and language groups of Western Australia. We acknowledge the wisdom of Aboriginal Elders both past and present and pay respect to Aboriginal communities of today.

# Message from the Executive Director



The Environmental Health Directorate's (EHD) involvement in WA's response to the COVID-19 pandemic has meant that the first half of 2020 was both significant and challenging. Understandably, the pandemic response took precedence over many other environmental health matters. I thank staff within this Directorate and also in local government for their tireless efforts in supporting the Western Australian community through such a difficult and uncertain time.

Like many agencies, EHD was involved in a significant number of activities to support the State's pandemic response. This included support to the Public Health Emergency Operations Centre (PHEOC), collaboration with the Department of Premier and Cabinet and other agencies to develop a range of COVID-19 Safety Plans and Guidance, and providing extensive support to local government, industry and businesses to navigate through such rapidly changing circumstances. Although the challenges posed by COVID-19 are far from over, this work has meant that WA is now in a much stronger position to deal with environmental health matters impacted by the pandemic.

Just prior to the COVID-19 pandemic, the EHD team piloted the new Play it Food Safe consumer awareness campaign with the goal of a further state-wide roll-out, and initiated several projects as part of the Foodborne Illness Reduction Strategy. We also hosted the 12<sup>th</sup> National Aboriginal and Torres Strait Islander Environmental Health Conference in WA; a significant event that showcased the diversity of public health programs that support closing the gap. Of course, there are numerous other noteworthy projects and important achievements, many of which are highlighted throughout this latest Yearbook.

As is always the case with environmental health, we also undertook a broad range of public health regulatory and surveillance activities and responded to several emerging and unanticipated public health risks. This included numerous health warnings about the algal bloom that persisted in the Swan and Canning Rivers for over 6 months.

This is now the tenth Yearbook produced by our team and it continues to be a great platform for showcasing our work, achievements and important initiatives to protect the health of Western Australians. As the newly appointed Executive Director, I want to thank the entire team in EHD for their hard work and dedication, particularly throughout the last few challenging months.

**Dr Michael Lindsay**  
**Executive Director**  
**Environmental Health Directorate | Public and Aboriginal Health Division**  
**Department of Health, Western Australia**



# Major achievements for 2019-2020

## COVID-19 response

A significant amount of work was undertaken to support State and local governments, industry and the general public to adhere to the rapidly changing COVID-19 restrictions and easing of restrictions related to environmental health matters.

## National Aboriginal and Torres Strait Islander Environmental Health Conference

The four day, 12th National Aboriginal and Torres Strait Islander Environmental Health Conference was hosted in Perth, with over 160 delegates from across Australia attending to showcase the diversity of Aboriginal public health.

## Play it Food Safe. campaign pilot

Stage one of the Play it Food Safe. campaign was piloted within the City of Busselton and surrounding areas to test the campaign materials for state-wide implementation. Curtin University undertook pre and post surveys to analyse knowledge and behaviours and to inform refinement of campaign materials.

## Release of four regulation review discussion papers

A further four discussion papers related to pesticide safety, drinking water, commercial air-handling and water systems and lodging houses were released for consultation across the State to determine how these public health risks are to be managed into the future in accordance with the *Public Health Act 2016*.

# About the Environmental Health Directorate



**PLAY it  
FOOD SAFE.**

The EHD is the government sector with responsibility for maintaining public and environmental health (EH) standards across WA. Our role is to ensure appropriate management strategies such as legislation, guidelines, surveillance, monitoring and public education, are in place to prevent disease, illness, injury, disability and premature death arising from environmental exposures and other public and environmental health impacts.

This yearbook is our way of documenting our annual activities that align with the objectives and key priorities described in the [Environmental Health Directorate Strategic Plan 2020-2023](#), [WA State Public Health Plan](#), [WA Sustainable Health Review](#) and the [WA Health Strategic Intent](#) to ensure we are doing our part to create liveable, vibrant places where all Western Australians experience the best possible health, wellbeing and quality of life.



## **Our Vision**

A safe, sustainable environment for the enhancement of public health



## **Our Mission**

Collaboratively leading the protection of people through effective assessment, management and education of environmental health risks



## **Our Values**

Accountability  
Respect  
Collaboration  
Integrity  
Critical thinking



## **Our Focus**

The young, the elderly, people with compromised health and people living in disadvantaged conditions

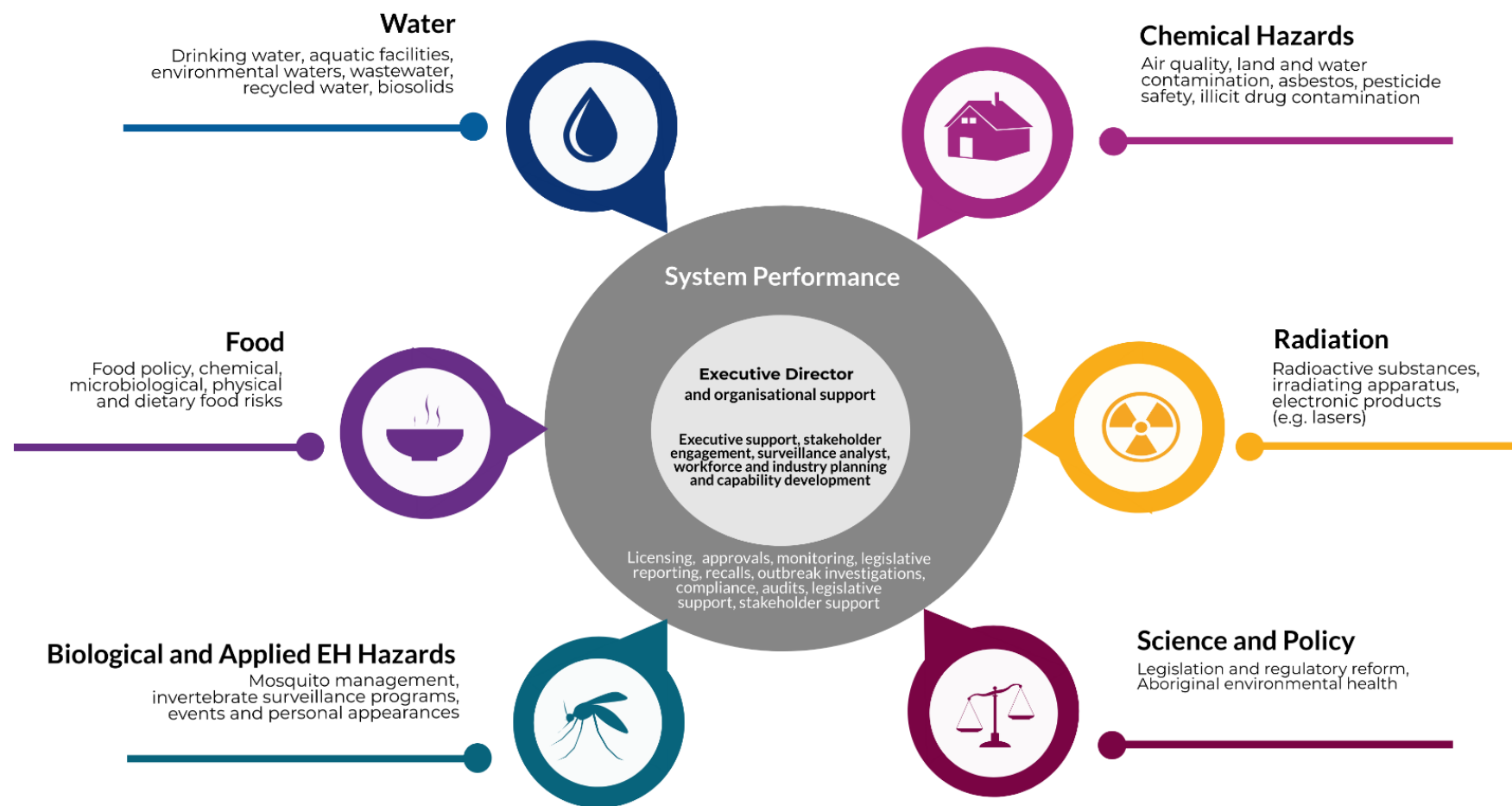


## **Our Goals**

Prevent disease, illness, injury, disability and premature death from environmental health risks

# Operating structure

The EHD employs a team of 82 full time equivalent staff (shared over ~92 employees) who work across seven program areas. The program areas are supported by the Executive Director and organisational supporting team.



# Enabling legislation



**The EHD is required to manage the requirements stipulated in eight Acts and thirty-one subsidiary regulations.**

*Public Health Act 2016*

*Health (Miscellaneous Provisions) Act 1911*

## **Environmental health hazards**

*Construction Camp Regulations*

*Fly Eradication Regulations*

*Health (Air-handling and Water Systems) Regulations 1994*

*Health (Asbestos) Regulations 1992*

*Health (Cloth Materials) Regulation 1985*

*Health Act (Carbon Monoxide) Regulations 1975*

*Health (Garden Soil) Regulations 1998*

*Hairdressing Establishment Regulations 1972*

*Health (Skin Penetration Procedure) Regulations 1998*

*Health (Offensive Trades Fees) Regulations 1976*

*Health (Construction Work) Regulations 1973*

*Health Act (Laundries and Bathrooms) Regulations*

*Health (Public Buildings) Regulations 1992*

*Health (Rottnest Island) By-laws 1989*

*Health (Pesticides) Regulations 2011*

*Health (Prescribed Insect Pests) Regulations 1991*

*Health (Notification of Lead Poisoning) Regulations 1985*

*Health (Section 112(2) Prohibition) Regulations 2006*

*Piggeries Regulations 1952*

*Registration, Enforcement and Discharge of Local Authority Charges on Land Regulations*

*Sewerage (Lighting, Ventilation and Construction) Regulations 1971*

## **Food**

*Food Act 2008*

*Food Regulations 2009*

## **Water**

*Fluoridation of Public Water Supplies Act 1966*

*Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*

*Health (Temporary Sanitary Conveniences) Regulations 1997*

*Health Act (Underground Water Supply) Regulations 1959*

*Health (Aquatic Facilities) Regulations 2007*

## **Radiation health**

*Nuclear Waste Storage and Transportation (Prohibition) Act 1999*

## **Radiation health as secretariat to the Radiological Council**

*Radiation Safety Act 1975*

*Radiation Safety (General) Regulations 1983*

*Radiation Safety (Qualifications) Regulations 1980*

*Radiation Safety (Transport of Radioactive Substances) Regulations 2002*

## **Tobacco**

*Tobacco Products Control Act 2006*

*Tobacco Products Control Regulations 2006*

## **Contaminated sites**

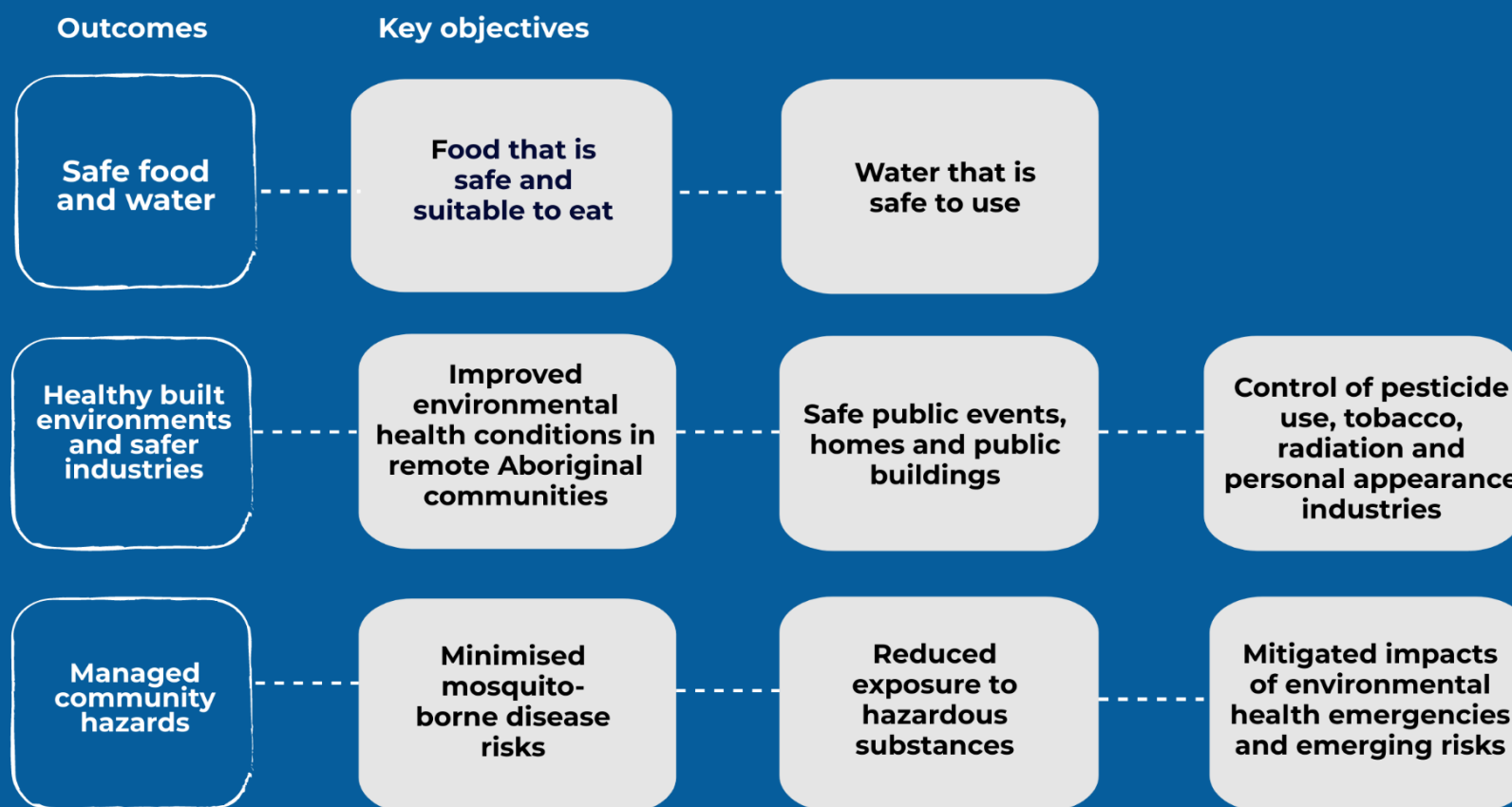
*Contaminated Sites Act 2003 (Minister for Environment)*



# Our year in review

The Environmental Health Directorate Strategic Plan 2020-2023 describes our activities in three strategic outcomes and eight objectives, outlined below.

During the 2019-2020 financial year our team delivered a diverse range of projects, programs and services, in partnership with numerous State Government agencies, local governments, industry, associations and the public, which contribute towards achieving our strategic outcomes.



The key outcomes and objectives outlined in the Environmental Health Directorate Strategic Plan 2020-2023.



# Food that is safe and suitable to eat



## Play it Food Safe. pilot campaign pilot

The development of the Play it Food Safe consumer awareness campaign was recognised as a key priority of the [WA Foodborne Illness Reduction Strategy \(2018–2021\)](#), developed in response to high rates of foodborne illness recorded in WA.

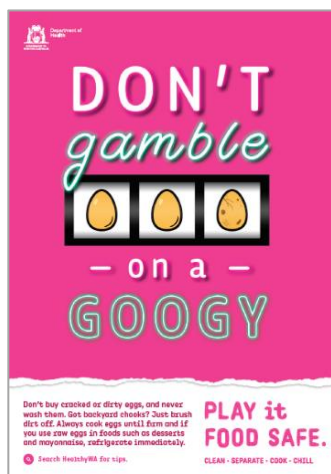
Stage 1 of the campaign was piloted within the City of Busselton and surrounding areas from November 2019 to February 2020. The aim of the pilot was to:

- test if the campaign is ready for full-scale implementation across WA
- provide an opportunity to gauge our target populations reaction to the campaign

- help make decisions about more effective use of resources (what media and messages are more effective)
- ensure we are prepared to measure the success of the campaign

Curtin University finalised a pre- and post-campaign survey summarising baseline data regarding the knowledge, attitudes and behaviours of individuals regarding food preparation and hygiene in the home. The results of the surveys are now being used to inform the refinement of stage 2 of the campaign roll-out, which is dependent on further requests for funding.

A range of resources including videos, posters, and social media images are available to download on the [campaign page](#).



# Food that is safe and suitable to eat



Examples of the types of communication channels used to promote the Play it Food Safe. campaign materials within the City of Busselton and surrounding areas. This included local newspapers, shopalites and wall and floor decals at popular shopping centres.





# Food that is safe and suitable to eat



## Food safety week seminar 2019

As part of [Australian Food Safety Week 2019](#), the EHD hosted a [half day seminar](#) for Food Act authorised officers. The theme of the event was *Excellent eggs - handle them safely* to raise awareness about the focus on improving egg safety standards in WA and the important role local government can play in supporting local egg producers comply with appropriate standards.

Presentations included the new Play it Food Safe. consumer awareness campaign, a review of egg safety practices, outbreak investigations, food recalls and included a local government perspective from the Shire of Augusta-Margaret River on working with egg producers.

78 local government and industry representatives attended with overall positive feedback about the day's proceedings.

## Bivalve shellfish expansion

The management of the [WA Shellfish Quality Assurance Program \(WASQAP\)](#) is the responsibility of the EHD. The role is to ensure bivalve molluscan shellfish produced in WA is safe and suitable for human consumption. This typically includes mussels, oysters and cockles which are produced for both domestic and export markets.

The State Government's efforts to expand the industry through various projects has been focused on developing additional aquaculture zones, resulting in the EHD responding to unprecedented levels of interest. This created an increase in applications and requests for guidance from prospective and existing proponents. EHD viewed this as an opportunity to strengthen and develop new industry and inter government agency relationships and strive towards effecting a more robust food safety system for WA.



John Coles, System Performance, presented "Is it the egg? Outbreak investigations"



78 people attended the Food Safety Week seminar



Henry Tan, Food, presented "Don't gamble on the googy"

# Food that is safe and suitable to eat



## Shellfish safety symposium

The National Shellfish Safety Symposium and Australian Shellfish Quality Assurance Advisory Committee (ASQAAC) annual general meeting was hosted by the EHD in Perth during September 2019 and brought together shellfish experts from all over Australia. The ASQAAC plays an important role as the coordinator and the technical advisory group in the development, improvement, and risk management of bivalve molluscan shellfish through the [Australian Shellfish Quality Assurance Operations Manual](#) and more specifically for WA through the [WASQAP](#).



## Emergency Animal Disease (EAD) Program

[Domestic and Tier 1 abattoirs and knackeries](#) are now required to document and implement an Emergency Animal Disease (EAD) program into the business approved arrangement. The EHD issued the [EAD Plan for Domestic and Export Registered, State Regulated \(Tier 1\) Abattoirs and Knackeries in WA](#) to support the early disease detection, minimising the impact it can have on animal welfare, industry and export.

The EHD in conjunction with the Department of Primary Industry and Regional Development (DPIRD) and [MINTRAC](#) rolled out 10 regional training workshops at red meat abattoirs to support the implementation of EAD programs. The workshops focused on training abattoir staff, meat inspectors, environmental health officers (EHO), rangers and other relevant staff in how to document and implement an EAD plan, and understand the roles and responsibilities of abattoir employees, local government and state government departments. Over 60 staff, meat inspectors and EHOs attended the training. The EHD received positive feedback from attendees of face-to-face training package.

## Cadmium in sheep and cattle kidneys

A food notice on [Cadmium in Sheep and Cattle Kidneys for Human Consumption](#) was released, which reinforces and clarifies the Department's requirements for the management of cadmium in kidneys produced in domestic and Tier 1 abattoirs in WA.

## Primary production of fruit and vegetables

The [Primary Production and Sale of Fruit and Vegetables](#) Food Notice was updated to provide a consistent approach to the application of the Food Act registration provisions to the sale of fruit and vegetables directly to the public by primary food production businesses.

# Food that is safe and suitable to eat



## Authorised officer under the Export Control Act

The EHD works in conjunction with the Department of Agriculture, Water and Environment (DAWE) to oversee export registered food businesses. Specifically, officers manage and audit [Export Registered Australian Standard Establishments \(Tier 1\)](#) on behalf of the DAWE, which includes export registered red meat boning rooms and abattoirs. As the appropriate enforcement agency under the *Food Act 2008* (the Food Act), the EHD undertakes audits, assessments, verifications and compliance and enforcement action at these food businesses and reports to the DAWE regarding the progress of each establishment.

Officers who undertake this work are required to be authorised officers under the *Export Control Act 1982*. This authorisation requires the completion of a vigorous training and application process. In June 2020, an EHD officer was granted authorisation under the *Export Control Act 1982*, which gives the officer legal authority to exercise the functions and powers to undertake the required work.

## Talking egg safety on RTR

As part of National Food Safety Week staff discussed all things eggs and general food safety principles on the [RTR Fitter Happier podcast](#). The interview included questions on handling and cooking eggs safely, as well as what to do when handling eggs from backyard chickens. Interviews also took place on ABC radio and Curtin radio.

## The changing face of food production

WA local governments reported a substantial increase in numbers of small and medium sized food businesses. The reasons for this trend can be found in customer demand for new types of foods, and in some cases as a direct result of COVID-19 restrictions on existing food businesses resulting in increased numbers of take away food business activities.

The EHD provided guidance to local governments and food businesses regarding the legislative requirements of changing food business activities, including when to register under the Food Act as a new food business and when to change the food business activities of an existing registered food business.

Assessing the food safety risk classifications for changing food business activities was a challenging task for some WA local governments. In addition, the assessment of food product compliance with the Code for WA food business activities conducted at home became the centre of many discussions between EHD and WA LGs.

## WA food recall activities

During 2019-20 the number of national food recalls was at 92, with 48 of those recalled products distributed to WA, and 8 originating in WA. The food recall trend from the previous few years was followed again this year, with the highest number of food recalls categorised as due to undeclared allergens.



# Food that is safe and suitable to eat



The EHD assisted WA local government EHOs and WA food businesses involved in food recall investigations in the process of initiating a food recall. Three food recall training presentations were also provided to local governments to support understanding of the process. Future training will be updated to include an example food recall plan to support assessment of a food business, as well as practical case studies.

## Novel food assessments

Novel foods are non-traditional foods that require assessment to establish their safety before they are added to the food supply. Assessment of novel food in Australia is the responsibility of the national Advisory Committee on Novel Foods (ACNF), with an officer from the EHD represented. As part of this role the EHD assessed 30 potential novel food items.

The assessment identified six foods meeting the criteria for 'traditional' foods, ten food items met the criteria for 'non-traditional' and 'not-novel' foods, while thirteen food items met the full criteria for 'non-traditional' and 'novel foods' that would require a safety assessment. Only one submission did not result in a recommendation in relation to the novel food definition, as initial assessment indicated that food item was deemed as a nutritive substance.

## Food outbreak investigation training

Officers from the EHD presented a food poisoning outbreak investigation scenario to Food Science and Technology students from the School of Molecular and Life Sciences at Curtin University. The scenario was highly interactive as a food poisoning investigation was unfolded, providing students with an understanding of the roles and responsibilities of different agencies; the purpose, process and complexity of outbreak investigations; gathering epidemiological, laboratory and environmental evidence; and to use evidence to draw inferences about the causes of outbreaks. 41 students attended the presentation. In evaluating the exercise, feedback was positive from the students. Most students agreed that the training was worthwhile and the EHD may look at delivering the scenario to other interested parties.



John Coles and Chris Hill, System Performance, providing food outbreak investigation training to Curtin University Food Science and Technology students

# Food that is safe and suitable to eat



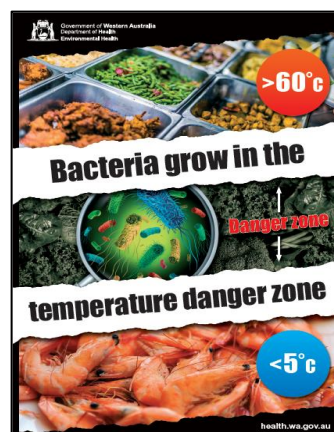
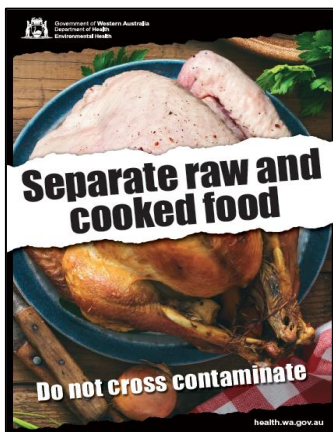
## Development of new food industry educational resources

Following requests from local government, the EHD initiated a project in conjunction with the Department's Communications Unit to develop new posters and stickers to promote food safety and hygiene practices in WA food business. This involved working with EHOs to identify critical messages that would be most effective. Six posters (pictured below) and seven stickers have been produced and will be available on the Department's website. The stickers include:

- Wash your hands
- Beware the danger zone
- Check temperature
- Hand wash basin
- Food prep sink
- Cleaning sink
- Allergen alert



Left to right: The project team involved in creating new food industry resources; Chris Hill, Henry Tan, Vic Andrich, Katy Trevaskis and John Coles





# Food that is safe and suitable to eat



## Food Act enforcement agency reporting

The Department undertakes annual financial year reporting on the performance by enforcement agencies of functions under the Food Act. In 2019-20 there was a 100% response rate, with all 138 enforcement agencies reporting. Agencies report on the number of authorised officers, registration and assessment of food businesses, compliance and enforcement activities, regulatory food safety auditing, primary production and processing standards, egg safety and food safety education and training. This data was used to inform key food safety related priorities to support the [WA Foodborne Illness Reduction Strategy \(FBIRS\)](#), and progress work to streamline administrative processes for temporary and mobile food businesses.

A three year summary report was also released, [1 July 2016 – 30 June 2019 Food Act Report](#) providing insights into the implementation of food safety legislation in WA, enabling the EHD to identify issues and assist with the consistent and effective implementation legislation.

## Auditor Generals food safety audit

The Office of the Auditor General (OAG) initiated an assessment of how the Department regulate consumer food safety through a range of compliance activities such as food business inspections and enforcement actions. The audit process required supplying the OAG officers with food

business register details, inspection records, process and procedures, staff interviews and guidelines. The process had to be put on hold due to COVID-19 and will be finalised in late in 2020. Two local governments were also audited with the final report and recommendations published; [Regulation of Consumer Food Safety by Local Government Entities Report](#).

## Representation on national food committees

EHD is represented or provides policy support for several national food safety committees including the:

1. [Australia and New Zealand Ministerial Forum on Food Regulation \(Forum\)](#) – Policy development
2. [Food Regulation Standing Committee](#) (FRSC) – Policy development
3. [Food Standards Australia New Zealand](#) (FSANZ) Standards setting
4. [Implementation Subcommittee for Food Regulation](#) (ISFR) Implementation and enforcement

which aim to work towards a consistent approach to the implementation and enforcement of food regulations and standards throughout Australia and New Zealand, as well as discuss and agree upon an approach to addressing various food matters. Key topics of discussion this year have included the health star rating, pregnancy warning labels on packaged alcohol, food allergens and the outcomes of [AFBIRS](#).

# Food that is safe and suitable to eat

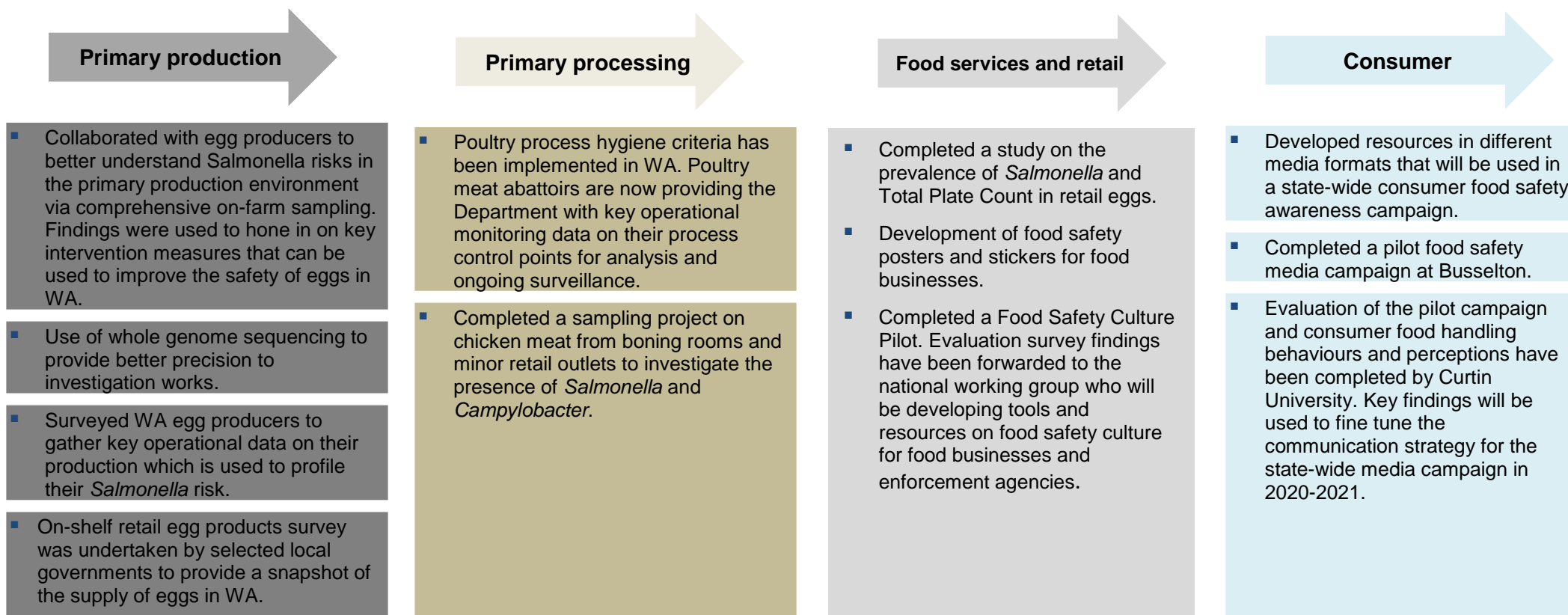


## WA Foodborne Illness Reduction Strategy (FBIRS)

The EHD made significant progress in the implementation of the WA Foodborne Illness Reduction Strategy which aims to reduce the rates of Salmonellosis and Campylobacteriosis. Through close collaboration with the Communicable Disease Control Directorate, local government, industry stakeholders

and academic institutions, key projects which aims to reduce the risk of foodborne illness through the entire food supply chain has been undertaken.

The Salmonella Outbreak Taskforce completed various studies and investigations to contain a specific Salmonella outbreak strain in WA. Projects completed during the 2019-2020 period are outlined below







John Coles from System Performance assessing chicken flocks



Danny Gould from System Performance collecting egg samples



From left to right: Yagen Soo, EHO City of Armadale, Benjamin Witham, CDCD, Jared Chong, Yvonne McCarthy, John Coles from System Performance and Henry Tan, Food, participated in the egg study



From left to right: Yagen Soo, EHO City of Armadale, John Coles and Yvonne McCarthy from System Performance candling eggs to check for cracks



# Food

The System Performance team and the Food team play a key role in implementation of food legislative functions. This includes state-wide coordination of food regulatory activities, monitoring, surveillance, incident response and stakeholder support, and enforcement agency controlling authority functions.

**2,100**



Email enquiries

**331**



Pathogen notifications

**34**



Food outbreaks

**48**



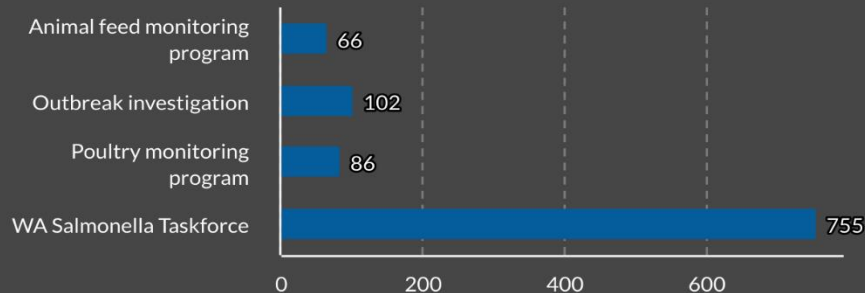
Food recalls

**30**

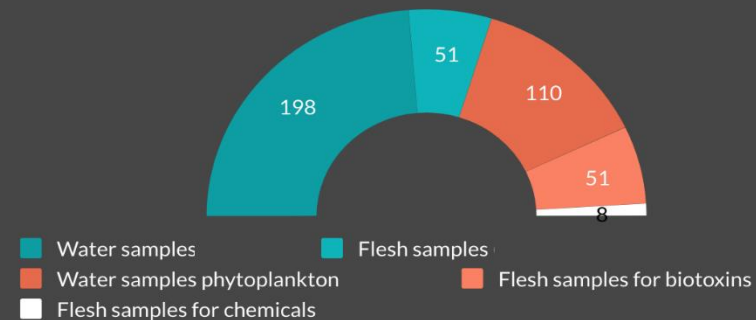


Novel foods assessed

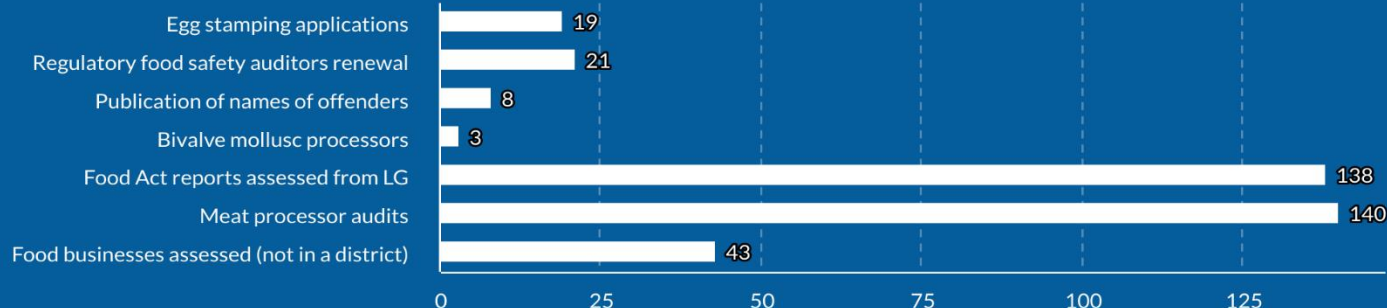
## Food samples analysed by EHD



## WA Shellfish Quality Assurance Program monitoring



## Food safety activities



# water that is safe to use

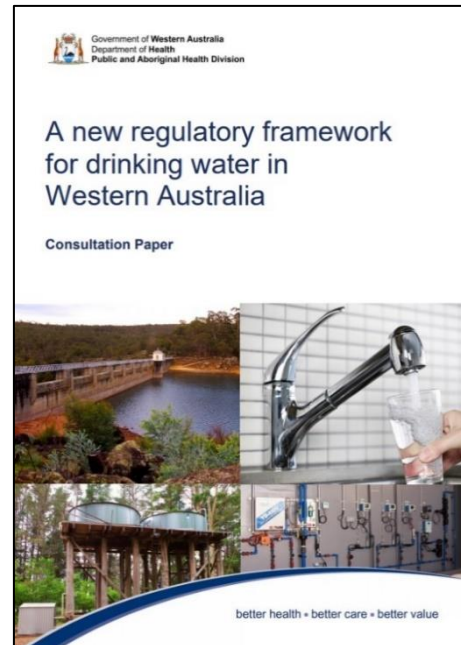


## Drinking water regulatory review

Stakeholders were invited to comment on the discussion paper, [A new regulatory framework for drinking water in Western Australia](#) which provided a summary of the current regulatory framework for drinking water and highlighted improvements to manage the public health risks associated with the supply of drinking water.

The discussion paper was opened for public consultation between June and September 2019 and received 62 responses.

There was strong support (89%) for the option to develop a new public health regulatory framework for drinking water and varying levels of support for the key features of the proposed regulations. The consultation feedback recommended that all the proposals be adopted with amendments and was supported by the Department of Health (DOH) within the [consultation summary report](#).



## Naegleria response protocol for drinking water systems

*Naegleria* is a free-living amoeboflagellate in soil and aquatic habitats. It can cause amoebic meningitis (also known as primary amoebic meningoencephalitis) and is most commonly found in fresh water, or inadequately maintained or inadequately disinfected spas, tubs or swimming pools.

The EHD published a new edition of the [Naegleria Response Protocol for drinking water supply systems](#) in consultation with WA drinking water providers and PathWest Laboratory Medicine, to assist with the management of thermophilic amoebae and positively identified *Naegleria fowleri* from reticulated drinking water supplies.

The protocol is aimed at drinking water suppliers, but it is also of value to anyone interested in drinking water quality incident management and amoebae in water supplies.



# water that is safe to use



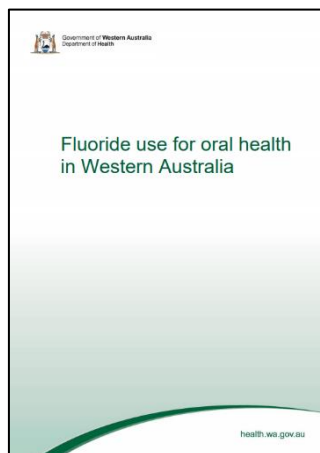
## Drinking water and suitable materials

The [Materials, Products and Substances in Contact with Drinking Water Guideline](#) was updated. One of the important factors influencing the quality of drinking water provided to consumers is the effect of various materials, products and substances that may encounter the drinking water as it is collected and supplied throughout the distribution system. The Department only supports those products approved for this intended purpose.

## Fluoride use for oral health

The EHD worked collaboratively with the office of the Chief Dental Officer to update the [Fluoride use for oral health in WA](#), to provide consistency with the [Guidelines for use of fluorides in Australia](#) published in late 2019 by the Australian Research Centre for Population Oral Health.

The document sets out advice for the public and dental health practitioners on a range of oral health matters relating to fluoride, including community water fluoridation, infant formula, packaged water, self-use fluoridated toothpaste, fluoride supplements and mouth rinses, as well as professionally applied fluoride products



## Memoranda of Understanding for Drinking Water

The EHD executed or updated six new [Memoranda of Understanding for Drinking Water](#) (MOUs) with Bunbury, Water Corporation, Busselton Water Corporation and Rottnest Island Authority in December 2019, Hamersley Iron Pty Ltd and Robe River Mining Co Pty Ltd in January 2020 and Lancelin South Pty Ltd in June 2020.

The MOUs incorporate the 'Framework for Management of Drinking Water Quality' and Guiding Principles set out in the Australian Drinking Water Guidelines and integrate all facets of the drinking water quality management and assurance system. The MOUs are designed to run for five years from the date of signing and are designed to be compatible with any new regulatory framework to be introduced pursuant to the *Public Health Act 2016* (Public Health Act).

***Adopting MOU's ensures all parties recognise the strategic importance of strong and visible drinking water quality regulation and the need to establish monitoring and support arrangements, including commitments for provision of information to the public.***





### **Advisory Committee for the Purity of Water**

The [Advisory Committee for the Purity of Water](#) is a non-statutory inter-departmental committee that operates under the chairship of the DOH. Amongst other functions, the Advisory Committee provides advice to the Ministers for Health and Water on protecting, monitoring and managing drinking water quality in WA and fosters inter-agency co-operation on related matters.

During the year, the Committee contributed to or endorsed several submissions on key public issues in relation to the quality of drinking water supplies in Australia. The most significant of these was reporting to the Education and Health Standing Committee of the WA Parliament in relation to nitrate and uranium levels in drinking water provided by Water Corporation or the Department of Communities. The submission is available on the [Parliamentary web site](#).

During the year the Committee also prepared or endorsed submissions to the National Health and Medical Research Council in relation to guidance on short term exposure values for certain chemicals in drinking water and in relation to management of disinfection by-products in drinking water.



# water that is safe to use



## Chemicals in drinking water sources

Per and Polyfluoroalkyl Substances (PFAS) are a large group of chemicals that can contaminate water sources via their introduction into the environment, from historical use in firefighting foams, industrial processes and consumer products. They are bio-accumulative, persistent and highly mobile in all types of waters. In August 2018, the Australian Drinking Water Guidelines (ADWG) were amended to incorporate guideline values for PFAS. Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS).

The Department asked the Water Corporation to conduct an initial risk assessment of potential sources of PFAS in drinking water catchments across the state.

The first round of PFAS monitoring was completed in March 2019 and from 17 water catchments sampled, PFAS was detected in one catchment in Esperance. While the drinking water supplied to the Esperance community was not affected the contaminated bore was permanently taken off line.

The EHD worked with other government organisations, including Water Corporation, Departments of Water, Environmental Regulation (DWER) and Premier and Cabinet (DPC), and the Shire of Esperance, to provide timely and clear information to the community and has continued to work with the Water Corporation to extend the monitoring program across the State.

## Wastewater management regulation review

A discussion paper considering the regulatory instruments and the health risks associated with wastewater management in WA was drafted in preparation for stakeholder consultation. The paper considers the framework existing under the *Health (Miscellaneous Provisions) Act 1911* (Miscellaneous Provisions Act); the *Health (Treatment of Sewage and Disposal of Effluent) Regulations 1974*; and the Government Sewerage Policy 2019. Wastewater management is an important factor for government planning considerations that include the water sustainability cycle as well as for land development throughout the state.

## Communicating the Government Sewerage Policy

The [Government Sewage Policy](#) (GSP) was endorsed and came into effect on the 23 September 2019. The GSP applies to all development applications in WA, regardless of tenure, other than for a rural use or development of a single house on a single lot. The GSP is being applied by the EHD to all referrals received from the WA Planning Commission since September 2019. In support of the Policy release the EHD staff presented at a series of workshops along with Department of Planning and Water/Environment representatives, including Bunbury, Albany, Perth and Geraldton to discuss implementation of the Policy with local government, other agencies and industry.



# water that is safe to use

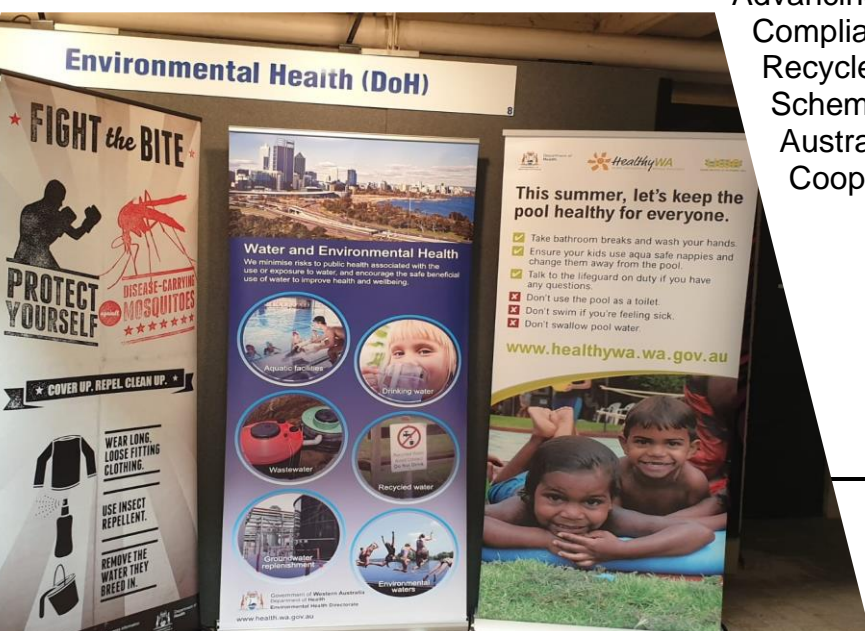


## Small water and wastewater systems conference

EHD staff presented at the 16th International Specialised Water Association conference on [Small Water and Wastewater Systems](#) held at Murdoch University on 1-5 December 2019. The focus of the conference was on the necessary infrastructure to provide good quality water, in sufficient quantity, in the most sustainable manner.

It was a great opportunity for the EHD to take part in the event, sharing ideas, hearing the latest research findings and discussing new possibilities in science and technology with local and global policy directors, engineers and managers. EHD staff presentations included "Why do we need the Government Sewerage Policy in Western Australia?", "Monitoring and managing the safety of small (decentralised) public drinking water systems in Western Australia" and

"Advancing Regulatory Compliance of Recycled Water Schemes in Western Australia through Cooperation".



Left to right: Caryn Gore, Henry Tan, Clemencia Rodriguez and Natalia Ramswell attended and presented at the International Small Water and Wastewater conference

# water that is safe to use



## On-site wastewater management course

The EHD facilitated the Land Capability Assessment for On-site Wastewater Management Course on 16 -18 July 2019, designed for those involved in planning, design, installation, regulation, management, and performance supervision of on-site and decentralised wastewater management systems.

It was particularly relevant to EHOs, building inspectors, plumbers, environmental managers, planners, surveyors, catchment managers, site and soil assessors, environmental and engineering consultants. The course provided all the basic competencies to assess requirements of the Government Sewerage Policy and all aspects of AS/NZS 1547:2012 On-site Domestic Wastewater Management. The feedback received from course participants was very positive and identified the need for the course to be held more regularly.



Participants who attended the on-site wastewater management training course

## Second stage groundwater replenishment scheme approval

Stage 2 of the Groundwater Replenishment Scheme (GWRS) was approved to recharge additional 14 GL/y by the Chief Health Officer in May 2020. The EHD revised all technical reports submitted by the Water Corporation to ensure the safety of the produced water.

Stage 2 Advanced Water Recycling Plant (AWRP) has the same treatment train of Stage 1 and is co-located next to Beenyup Stage 1 AWRP. Water quality results from the GWRS are also reviewed by the Advisory Committee of the Purity of Water on their quarterly meetings. Given the success of the Beenyup GWRS, the Water Corporation is starting to explore the feasibility of potable reuse from the Woodman Point Wastewater Treatment Plant.

**WA has gained significant expertise in the operation and regulatory oversight of potable water reuse and is leading Australia in this area.**





# water that is safe to use



## Memorandum of Understanding with Sewerage Service Providers

The Economic Regulation Authority (ERA) has published the water licence review 2019 [final decision](#) and amended [water licence template](#).

Following the review, the ERA made several changes to the water licence template, including requiring sewerage service providers with more than 400 connections to enter into a Memorandum of Understanding (MOU) with the DOH. The ERA currently administers 22 water licences and a list of current water licensees can be found on the [ERA website](#). The new licences took effect on 1 May 2020.

The EHD team is working closely with the Water Corporation maintaining the existing MOU and establishing the new MOU's with other sewerage service providers that have more than 400 connections.

## Updated aquatic facilities Code of Practice

In response to feedback from industry and local government, the [Code of Practice for the Design, Construction, Operation, Management and Maintenance of Aquatic Facilities](#) was reviewed and updated, and a new supporting guideline for [Water Spray Grounds and Interactive Water Features Application, Design and Operating Requirements Environmental Health](#) was published

## Increase in Cryptosporidiosis notifications

Early in 2020 the Department identified an unusual increase in the number of Cryptosporidiosis notifications in the Perth metropolitan area. Cryptosporidiosis is a gastrointestinal illness caused by the microscopic parasite *Cryptosporidium*. The illness can be transmitted through contaminated food and water including swimming in pools and playing in interactive water features such as water spray parks.

Swimming pools and interactive water features can act as an efficient means of community transmission if they are not well maintained. To increase the level of awareness the EHD worked with local government and pool operators across the metropolitan area to ensure effective measures were in place to prevent contamination by promoting good bather hygiene and increased attention to pool management and disinfection procedures and issued a public [media statement](#).

### This summer let's keep the pool healthy for everyone.

It is up to you to help keep germs out the water. We all share the water we swim in. Protect your family, friends, yourself and other swimmers from germs with a few easy steps:

- |   |                                     |
|---|-------------------------------------|
| ✓ take regular bathroom breaks and wash your hands                          | ✗ don't use the pool as a toilet    |
| ✓ ensure your kids use aqua safe nappies and change them away from the pool | ✗ don't swim if you're feeling sick |
| ✓ talk to the lifeguard on duty if you have any questions                   | ✗ don't swallow pool water          |

Delivering a Healthy WA

[www.healthywa.wa.gov.au](http://www.healthywa.wa.gov.au)





## Alexandrium micro-algal bloom

The Departments of Health, Biodiversity Conservation and Attractions, and Primary Industries and Regional Development, monitored and coordinated efforts in response to an Alexandrium micro-algal bloom in the Swan and Canning rivers over a 6-month period.

The bloom resulted in a 'No fishing, no crabbing or shellfish collection' health warning which covered a large part of the Swan and Canning Rivers. This warning was a result of elevated toxic Alexandrium algae which can produce 'Paralytic Shellfish Poisoning' in people who consume affected seafood. This is the second substantial Alexandrium bloom in consecutive years, and its impact has created ongoing concern among recreational and commercial anglers. It is likely that this is the beginning of a new norm with repeated blooms expected in subsequent years. The EHD worked with impacted local governments to ensure health warning signage were displayed in prominent locations and media released were issued regularly to keep the community informed. The health warning was lifted in June 2020.



# water

The Water team, with support from System Performance, administers water regulatory requirements for all forms of water use of public health significance in WA.

**23,460**

## Water monitoring samples collected and analysed across WA

including:

**14,969**

Aquatic facilities

**2,584**

Drinking water

**547**

Aboriginal community drinking water

**3,895**

Environmental waters

**1,253**

Wastewater and recycling schemes

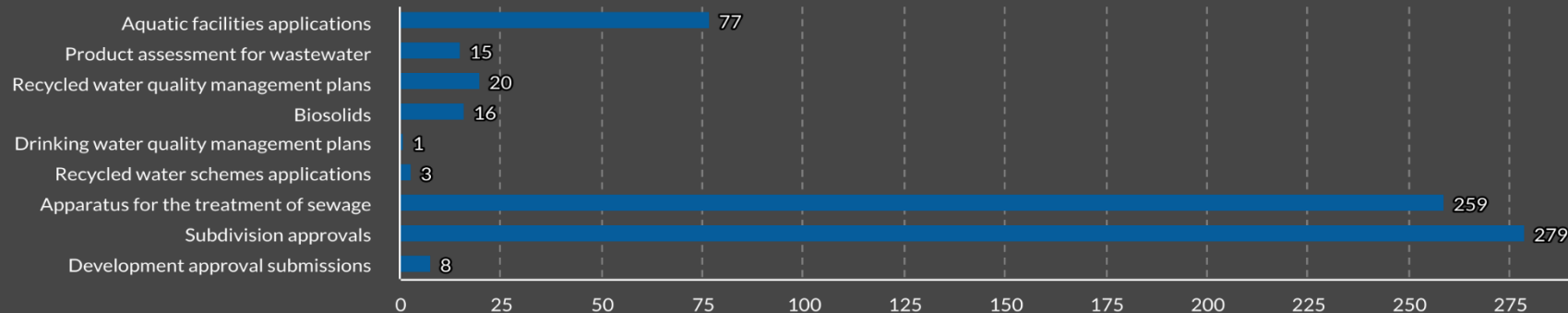
**28**

Abattoir and meat processors

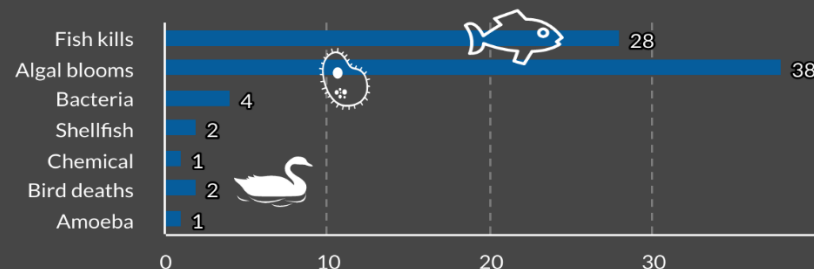
**82**

Air conditioners (Legionella)

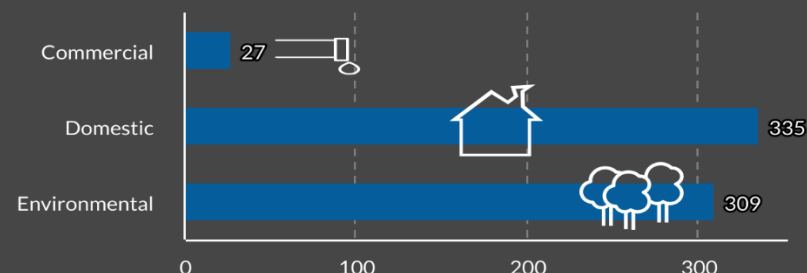
### Water assessments and approvals



### Health responses to events in recreational water bodies



### Wastewater overflow responses



# Improved environmental health conditions in remote Aboriginal communities



## Ending Trachoma project

The **#endingtrachoma** project is a partnership between the EHD, the Public Health Advocay Institute of WA (PHAIWA), and WA Country Health Service, and aims to reduce the incidence of trachoma and other hygiene related diseases in 'trachoma at risk' remote Aboriginal communities located within Goldfields, Midwest, Pilbara and Kimberley regions.

The EHD and PHAIWA coordinated four projects that covered six communities. These involved supporting local Aboriginal EH Workers to assess household bathrooms for functionality and safety. These assessments also included the fixing of basic plumbing or health hardware issues (e.g. shower roses, taps, drains, etc) or referral (to the landlord) to get the plumbing and health hardware issues resolved and support for the delivery of free soap, and installation of towel hooks, mirrors and stickers that demonstrate how to wash hands and faces.

Other communities benefitted from plumbing contractors employed by Housing (Department of Communities) visiting the community while EHD staff were on site to ensure issues identified from housing audits were fixed. Aboriginal EH Practitioners also took the opportunity to

have a chat with householders about the importance of hand and face washing and identify whether households had a working washing machine and clothes line.

As an example of the outcomes that were achieved during these projects, in Bondini and Wiluna, Aboriginal EH Practitioners assisted with rectifying 88 plumbing issues for the 46 houses checked. Only four houses were missed due to not being occupied or people away, which was a great outcome.

To add a bit of fun and to enhance engagement, the EH Project team ran a "giving back" event including a bouncy castle, water slide, BBQ, movie screen and wash hand basin. Approximately 40 children and 30 adults attended.

As part of the event, children were asked to wash their face before they went on the jumping castle. Similarly, community members were asked to wash their hands at our mobile basin with soap before they enjoyed a burger or sausage. These were great opportunities to increase awareness and skills around the importance of hand and face washing.

***Individual households and communities have indicated overall support for safe bathroom checks which will be incorporated into Aboriginal Health service providers standard EH program.***



Trachoma screening in the Ngaanyatjarra Lands



# Improved environmental health conditions in remote Aboriginal communities



## Safe bathroom assessments

The “Safe Bathroom Assessments” program has been running for more than three years, involving the assessment of household bathrooms to determine whether facilities such as toilets, showers and taps are functional and safe to use. It supports the E (facial cleanliness) and E (environmental health) components of the Trachoma SAFE strategy. To-date more than 1,500 Safe Bathroom Assessments have been performed in more than 700 individual homes. An analysis of the recent assessments indicates that in more than 90% of the time, the infrastructure in bathrooms is OK at the time of the visit.

Our records indicate that when items have been ‘fixed’, they are staying fixed for longer periods of time before needing to be repaired again. Our contracted EH service providers have reported that the Safe Bathrooms assessments and repairs

have been very well received by the remote community households that have experienced them. Safe Bathroom Assessments are now part of our service providers’ standard EH program. Augmenting the program is the ongoing provision of soap, the recent availability of donated new bath

towels and personal care products for householders. The Safe Bathroom Assessments are particularly encouraged as they support the hygiene promotion messages of Covid 19. They also form the minimum basis of a home assessment in response to a clinic generated environmental health referral

## 12<sup>th</sup> National Aboriginal and Torres Strait Islander Environmental Health Conference

Over 160 delegates from around Australia assembled in Perth in September 2019 for the [12<sup>th</sup> National Aboriginal and Torres Strait Islander Environmental Health Conference](#). Delegates heard from a range of speakers including key notes given by Professor Johnathon Carapetis (Telethon Kids Institute) and Patricia Turner, CEO National Aboriginal Community Controlled Health Organisation (NACCHO). EHD played a significant role in assisting with the organisation of the four-day event.

**"The conference was a great success and really showcased the diversity of this part of Public Health and the dedicated people who work in this profession. There were many excellent presentations by a range of people from community workers to medical researchers. The strength of the conference is that it gives the opportunity for Indigenous environmental health practitioners to tell their stories and to share in the rich knowledge from around Australia of best practices, successes and challenges."**

*Jeff Standen, Chair, enHealth*

Expert Reference Panel on Aboriginal and Torres Strait Islander Environmental Health



WA Aboriginal EH Program team member, Onike Williams in the Pilbara assisting with the Safe Bathroom assessment program.





“In mainstream settings, there is no battle for recognition or resources for environmental health from finance departments. There is nothing more to prove and a fully resourced framework is in place. But Aboriginal environmental health is something else again.

Aboriginal environmental health combines deep cultural knowledge of how things work in Aboriginal communities with these hard scientific facts about disease. Aboriginal environmental health must forge high-trust partnerships with community. Aboriginal environmental health is a community asset.

And Aboriginal environmental health is needed now more than ever. Why is this so? Public housing and public utilities have largely been taken out of Aboriginal control. In some locations, funding for the Aboriginal Environmental Health workforce has evaporated.\

Sometimes, the power to make the simplest decision on the ground has been ripped away from local communities. Instead, this power is with someone far away who doesn't even know us. This is nowhere more manifest than in Aboriginal housing.

Effective Aboriginal environmental health programs must be in Aboriginal hands. Community controlled organisations must drive the necessary knowledge exchange between those who hold technical expertise and those who have been denied it. The very nature of this work means that Aboriginal communities must retain the reins – and retain the knowledge”

Pat Turner, Chief Executive Officer NACCHO



# Aboriginal environmental health

The Science and Policy team coordinates the delivery of the Aboriginal Environmental Health Program for regional and remote communities to ensure housing and essential services are maintained. The Program has been running for over 25 years.

**\$8.33**  
million

in Aboriginal environmental  
health expenditure

**21**

Aboriginal environmental  
health service providers

**71**

FTE staff employed by service  
providers to deliver programs

**72**

% of staff employed with a Certificate  
II in Indigenous Environmental Health  
qualifications or higher

**352**

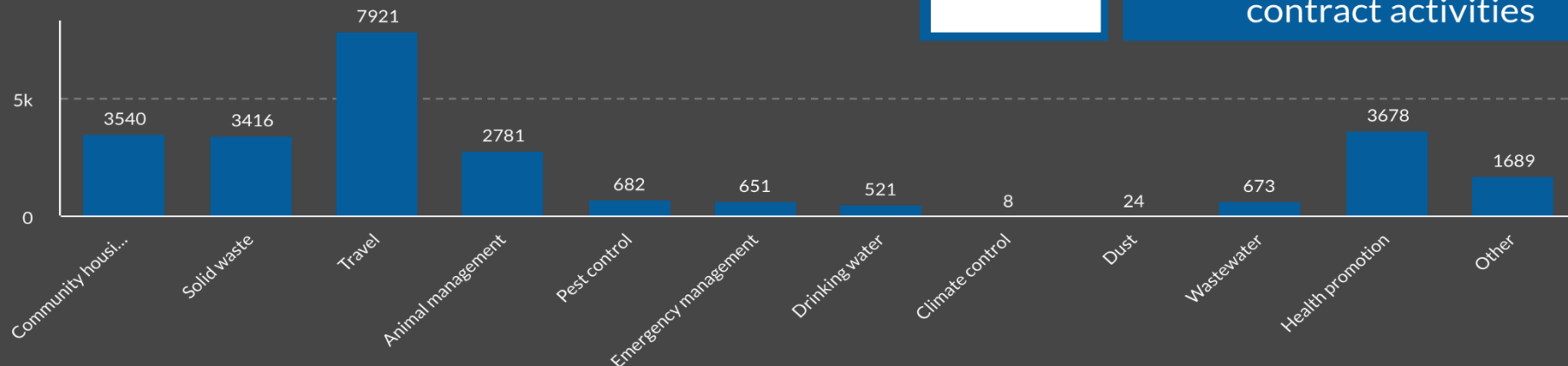
Safe bathroom checks



**39**

Trachoma at-risk communities

Number of hours spent managing Aboriginal EH  
contract activities



**25,584**

Total hours of service required  
to provide Aboriginal EH  
contract activities





# Safe public events, homes and public buildings

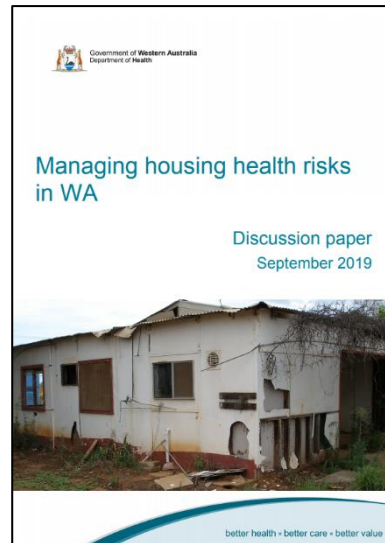


## Housing health risks review

The [Managing housing risks in WA discussion paper](#) was released for public consultation and examined three pieces of legislation; Miscellaneous Provisions Act Part V, Division 1; *Health (Laundries and Bathrooms) Regulations 1971*; and the *Sewerage (Lighting, Ventilation and Construction) Regulations 1971*, to determine how the associated public health risks must be managed in the future.

The Department received a total of 55 responses during the comment period between September and December 2019. There was strong support (74.5%) for the option to develop new updated regulations under the Public Health Act. The recommendations from the housing health risk review will be considered in combination with the recommendations from the lodging houses regulatory review to create the structure and content for new safe housing regulations.

The next stage is for the EHD to develop drafting instructions to be provided to Parliamentary Counsel.

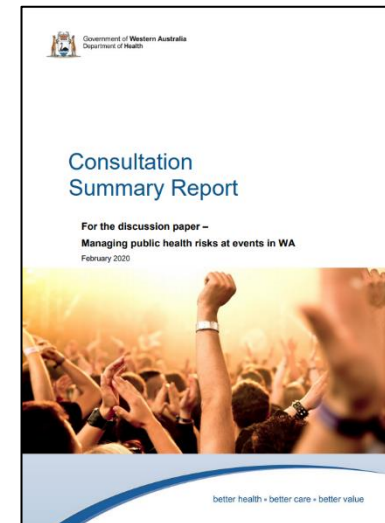


## Public buildings regulation review

The EHD continued to progress the future management of public health risks in public buildings. Recommendations identified within the [consultation summary report](#) have been incorporated within the development of drafting instructions to be provided to Parliamentary Counsel.

## Managing public health risks at events consultation summary

The [Managing public health risks at events consultation summary report](#) was published with the results of stakeholder feedback. The EHD received a total of 60 responses during the consultation period. There was strong support (93%) for the development of new regulations for events under the Public Health Act with updated guidelines. There was consensus across local government and industry that an updated current, clear and consistent approach to the management of events was needed. The proposals outlined in the discussion paper were generally well supported. There was strong support for the ability to scale requirements based on risk factors and for a flexible approach in any regulatory framework to consider the dynamic nature of events. The next stage is that EHD will develop drafting instructions to be provided to Parliamentary Counsel.



# Safe public events, homes and public buildings



## Lodging houses regulation review

The [Managing lodging house health risks in Western Australia](#) discussion paper was released for public consultation, which reviewed the management of public health risks for lodging houses currently regulated under the Miscellaneous Provisions Act. Risk scenarios for lodging houses consider many of the basic requirements for a safe, secure and healthy housing environment which all Western Australians are entitled as well as other known public health risks which have led to tragic incidents with this style of accommodation. The next stage of the review will be considered in conjunction with the housing health risks review.



## Air-handling and water systems review

Part 2 of the [Air-handling and water systems of commercial buildings discussion paper](#) was released for a three month consultation period, outlining proposed requirements for new regulations to be created under the Public Health Act. This consultation continues on from the initial Part 1 discussion paper which proposed a range of risk management options.

## Updated Legionella control webpages

A range of resources related to [Legionella control](#) was updated online to support building owners and operators apply the correct design, installation, operation and maintenance of air-handling and water systems installed in WA buildings to protect the public from outbreaks of Legionnaires' Disease and other airborne diseases. Information includes relevant legislation and guidelines, resources for health and aged care facilities, decontamination protocols and local government investigation procedures.

## Legionella investigations

Five cases of Legionnaires' Disease, caused by *Legionella pneumophila*, were reported in metropolitan Perth in May 2020. All five cases were promptly investigated by local government EHOs. No common source of infection was confirmed and *L.pneumophila* was not detected at any of the sites investigated. A [media statement](#) was issued (3 June) as a timely reminder for building managers to maintain cooling towers and other water systems.

## Mould podcast

EHD was invited to participate in the Fitter Happier (RTR FM) [podcast](#) to raise awareness about the health effects of [mould](#) in the home and how prevent and get rid of it. Mould and dampness in homes may cause health problems, as well as unpleasant odours and damage to building materials, contents and structures.



# Public events

The Biological and Applied Environmental Health Hazards team plays an important role in supporting event organisers and local government with approving, planning and assessing events, as well as monitoring crowd incidents and event trends worldwide to improve WA policy interventions.



Approximately 150,000 people attended the Highway to Hell event in March 2020



**Assisted with the  
planning and approval of**

**21\***

**major events in WA**

\* Number of events impacted by COVID-19 cancellations and restrictions

**Attended 17\* events including:**

Highway to Hell  
Pop up Shakespeare's Globe  
Northbridge Ice Cream Factory  
AFL Games  
Australia Day Skyworks  
U2 concert  
Queen concert  
Paul Kelly concert  
Origin Fields Music Festival  
Kings Park Mellen Events Series  
AHA with Rick Astley  
Bledisloe Cup  
ATP Cup

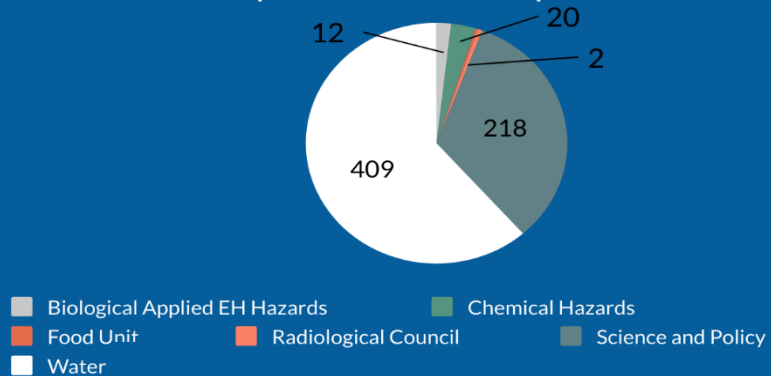


# Development assessment approvals

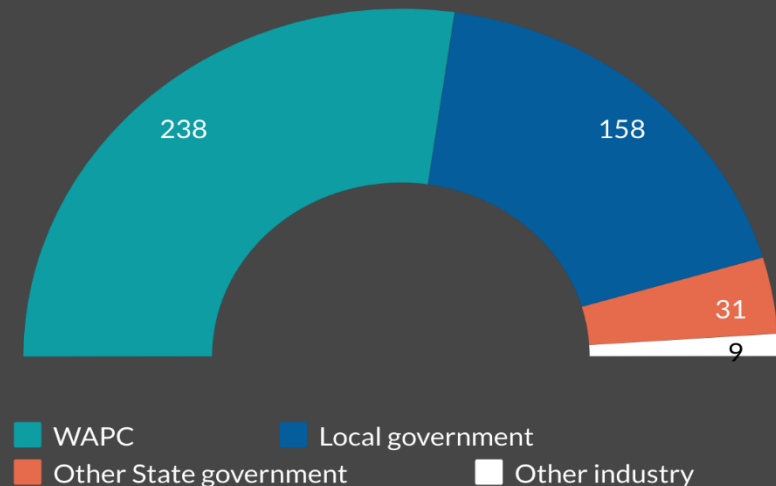
The Science and Policy team coordinates the Development Assessment Approvals (DAP) process across the EHD, to manage the vast number of applications received that require health input.

- 8** average number of development assessments received per week
- 36** average number of development assessments received per month
- 426** average number of development assessments received per year

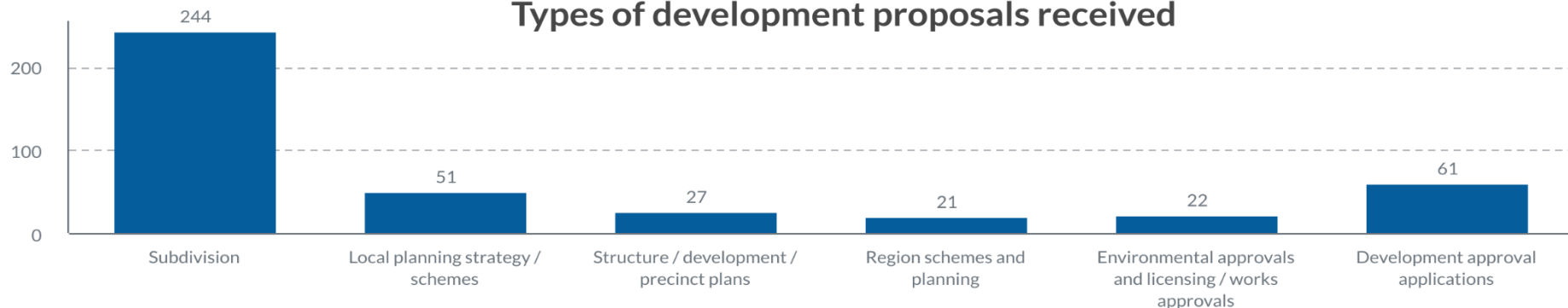
## EH team responses to development assessments



## Stakeholders requesting EH advice for development approvals



## Types of development proposals received



# Control of pesticide use, tobacco, radiation and personal appearance industries



## Pesticides regulation review

The [Managing public health risks associated with pesticides in Western Australia](#) discussion paper was released for public consultation between July and October 2019.

The discussion paper examined the existing regulatory environment and risks of the pesticide industry and considered how the current safety measures may be re-constructed using a modern approach. The Department received a total of 234 responses during the submission period and there was majority support (53%) for the option to provide new, updated regulations under the *Public Health Act 2016*. There was very strong stakeholder support to maintain a regulated structure of the pesticide industry with the Department as the enforcement agency where over 92% of respondents voted to either retain the existing regulatory regime or provide new, updated regulations.

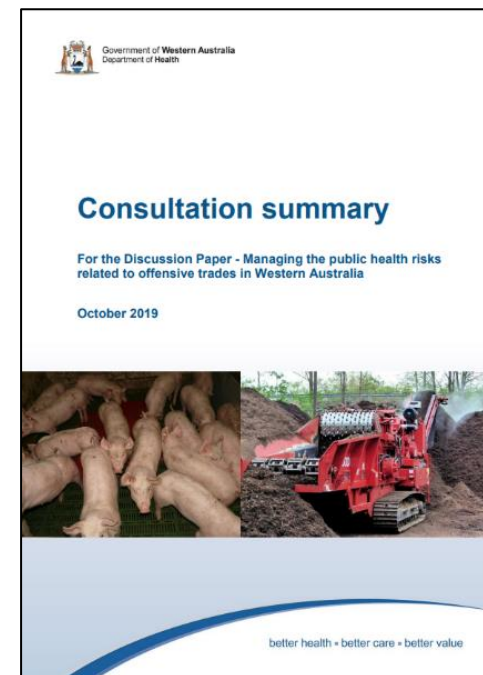
The next stage is that EHD will develop drafting instructions to be provided to Parliamentary Counsel.



## Offensive trades review

The [Management of public health risks related to offensive trades in WA discussion paper](#) reviewing options for the management of public health risks of offensive trades in WA was released for a three month consultation in 2019.

The [consultation summary report](#) was later published, which details 42 responses with majority support (52%) for the option to repeal the legislation and replace it with a guideline. In total 69% of respondents were in favour of repealing the current legislation and replacing with a non-regulatory management option to provide risk management support to local government and industry.





# Control of pesticide use, tobacco, radiation and personal appearance industries



## Vampire facials

Platelet rich plasma (PRP) therapy is a beauty treatment that gained popularity and received a lot of media attention recently. The treatment has been colloquially termed the 'vampire facial' as it involves extracting/processing blood from a client, before reinjecting only the plasma component, containing platelets, into the client's skin (normally the face, however it also may be used by medical professionals in the treatment of musculoskeletal injuries, and wound healing following surgery).

In response, the EHD developed the [Platelet Rich Plasma Therapy factsheet](#) to provide guidance to both beauty therapists and EHO's, and an awareness of the process and potential side effects a client may experience. PRP is generally considered safe, but only when performed by a qualified and experienced practitioner in a sterile environment.

## Hyaluron pen use

A "Hyaluron Pen" is a device which is used to administer hyaluronic acid into the skin using pressure rather than a needle. When it is prepared for injection it becomes a Schedule 4 (prescription only) product, and must be prescribed by a medical practitioner and administered by a medical practitioner or registered nurse.

In response to growing interest in the use of [Hyaluron Pens](#), the EHD developed online advice to ensure stakeholders

were aware of this strict requirement. Anyone aware of beauty therapists offering such services without appropriate qualifications were advised to contact the DOH.

## National tobacco control

Staff attended the [Oceania Tobacco Control Conference](#) and the Australian Illicit Tobacco Taskforce Domestic Conference in Sydney. This included presentations by tobacco control experts, health promotion and policy strategists, and the latest research and viewpoints on smoking cessation and tobacco control. EHD was invited to support a federal government regulatory taskforce that is seeking participation of State tobacco enforcement units in reducing illicit tobacco importation, distribution and use.

## Promoting tobacco laws to WA clubs

Clubs WA conduct a Trade Expo every year to promote services that are available to clubs within the state. As most WA clubs have a smoking area and a licence to sell tobacco, the EHD promoted compliance with tobacco legislation at the event, raising awareness about [new laws](#) restricting smoking within 5 metres of a doorway.



# Chemical Hazards

The Chemical Hazards team, with support from System Performance, provide policy advice and manage regulatory requirements associated with chemicals, pesticides, asbestos, contaminated sites and other common environmental hazards of public health significance in WA.

**2,651**

Pest management technician licences renewed

**34**

Pest management vehicle inspections undertaken



**899**

Pest management business registrations renewed

**288**

New pest management technician licences issued

**74**

New pest management businesses registered

**109**

Contaminated sites advice requests

**2**

Contaminated site inspections



**346**

Contaminated sites classification sign-off

**34**

Fumigation sites assessed



**30**

Clandestine drug laboratories reported



**29**

Cannabis grow houses reported





# Radiation Health

Radiation Health provides the Secretariat for the Radiological Council of WA in enforcing the Radiation Safety Act 1975. The aim of the Act is to regulate the keeping and use of radioactive substances, irradiating apparatus (x-ray equipment) and certain electronic products (eg lasers and transilluminators) in order to protect public health and maintain practices in the use of radiation.

**11,449**

## Total Radiation Safety Act Licences and Registrations

### Registrations

**205** New applications

**1,078** Renewed

**142** Terminated



**731**

Amendments to registrations and licences (outside renewal process)

### Licences

**1,314** New applications

**3,774** Renewed

**941** Terminated

## Radiation Health activities

\*A radiation licensing account was set up during the year and radiation licence and registration application forms are now sent that that address



- General incoming correspondence (5,273)
- Medical x-ray equipment examination papers assessed (1,892)
- Radiation safety examination papers assessed (550)\*
- Applications to import radioactive substances (217)
- Industrial radiation device compliance tests (680)
- Building plans assessed for structural radiation shielding (31)
- Radiation incidents reviewed and actioned (36)
- Medical research projects: patients radiation dosimetry and risk statements reviewed (36)

# Tobacco

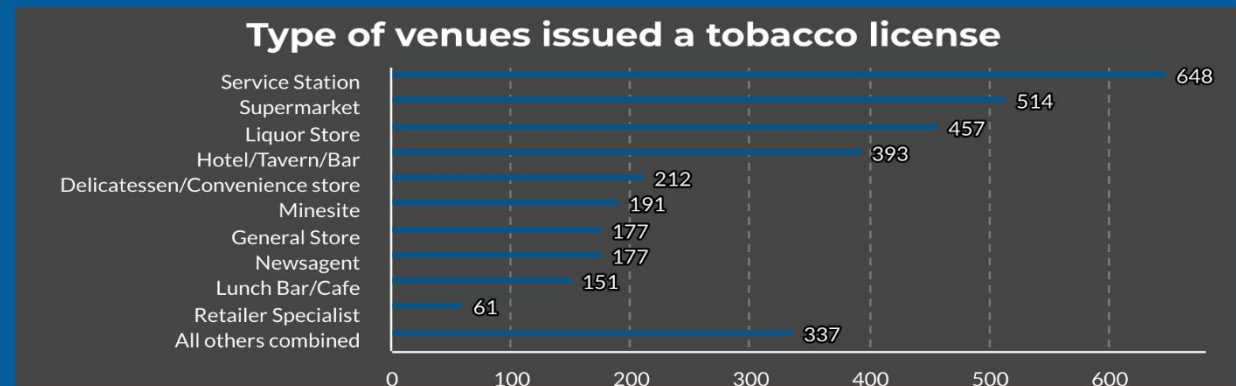
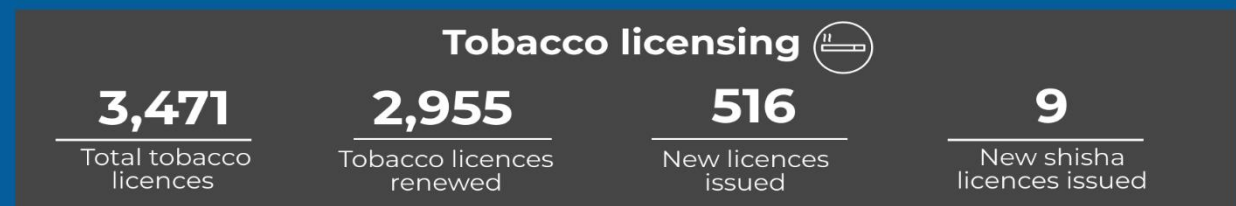
The System Performance team is responsible for coordinating state-wide administration and enforcement of tobacco legislation. This involves licensing and inspecting tobacco retailers and suppliers.

## 2,672

### Store visits and/or audits related to the Tobacco Products Control Act 2006



Paul Iriks promoted new tobacco laws at the Clubs WA Trade Expo.





# Minimised mosquito-borne disease risks



## Medical entomology reporting

The [Medical Entomology 2018-19 Annual Report](#) summarises all human cases of mosquito-borne disease notified to the Department and recorded in the WA Notifiable Infectious Disease Database, as well as the varied and comprehensive activities undertaken.

[Quarterly reports on mosquito-borne disease](#) human case notifications by Public Health region in WA were also made available online during 2019/20.

## MVE warning for the Kimberley and Pilbara

The Department manages a sentinel chicken program in the north of the State, providing an early warning for Murray Valley encephalitis (MVE) and Kunjin virus disease. MVE virus activity was detected at sites across the Kimberley and Pilbara regions, over an extended period of time, in 2019/20.

Three separate media statements were issued at key times throughout the season to warn residents and travellers of the public health risk, and the importance of avoiding mosquito bites. While MVE is rare, symptoms of disease are debilitating and potentially fatal. No human cases of MVE were reported during 2019/20.

## Kimberley regional photographic adult mosquito identification key

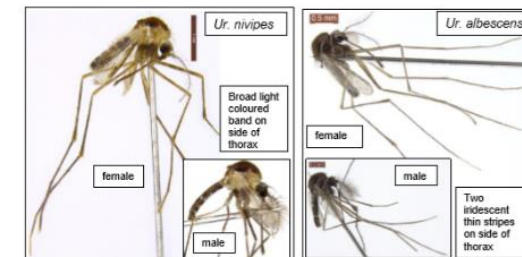
The [photographic key for the Kimberley region of WA](#) was revised, supplementing the keys for the Arid, Pilbara and South West regions. The Kimberley has the most diverse mosquito fauna in the State due to the wide variety of mosquito breeding habitats. This key includes 33 of the most common species from 11 different genera.

By including annotated images alongside descriptions of certain morphological features, this photographic key simplifies the process of adult mosquito identification. Through a process of elimination, working through each step and selecting between the alternatives, this key leads to a conclusion for the species at hand. This conclusion can be confirmed by comparing the specimen with detailed images on species description sheets (revision currently in progress).

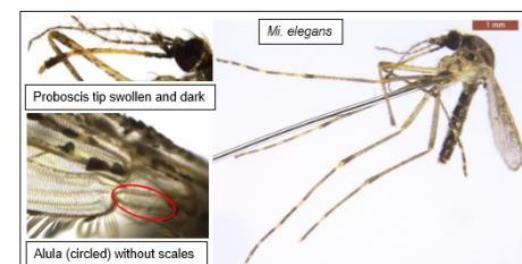
PHOTOGRAPHIC KEY TO THE COMMON ADULT FEMALE MOSQUITOES IN  
KIMBERLEY REGION OF WESTERN AUSTRALIA

14

14A Very small species, side of thorax with distinct stripe(s), proboscis all dark: *Uranotaenia* species



14B Small species, top of thorax (scutum) covered in dark and golden scales, proboscis pale with swollen dark tip: *Mimomyia elegans*



# Minimised mosquito-borne disease risks



## Mosquito management course

The EHD conducted a 5-day mosquito management course in Mandurah during September 2019. The course included theoretical and practical components, providing participants with the knowledge and skills required to develop and implement a mosquito management program for their jurisdictions. People attended from across WA, the Northern Territory, New South Wales, Victoria, China, and New Zealand. This included staff from Federal, State and local government, public health units, the defense force, and pest control companies as well as tertiary students. Lectures were presented on topics such as mosquito biology, mosquito-borne diseases, mosquito control, and mosquito surveillance.

Participants used the knowledge they gained from these lectures to develop sustainable, integrated management programs. Participants also gained hands-on experience during practical demonstrations of surveillance and control equipment, chemical treatment exercises, field site visits to collect adult and larval mosquitoes, laboratory mosquito identification sessions, and group work on specific mosquito management scenarios. Presenters at the course included experts from the Department, the NSW Health Department, the Northern Territory, local government mosquito management personnel, and the pest control industry. There was a great deal of interest and focus among the participants with a very high level of satisfaction expressed in evaluations.



Participants who attended the 2019 Mosquito Management course



# Minimised mosquito-borne disease risks



## CLAG funding finalised

Funding requests from 18 Contiguous Local Authorities Groups (CLAGs) for health-related mosquito management programs were assessed by the Mosquito Control Advisory Committee (MCAC), in collaboration with the DOH. The total funding request from the Department towards CLAG budget submissions amounted to \$274,000. The expanded list of eligible items under the funding scheme meant CLAGs received support for chemical control, physical control, public education, training and mosquito management related equipment.

## Annual mosquito collection from northern WA

Staff travelled to the Pilbara and Kimberley regions to undertake annual mosquito and virus surveillance and the opportunity to discuss mosquito management issues with local government EHO's. The trip was timed to coincide with the end of the wet season in the regions. During the trip COVID-19 travel restrictions came into place, reducing the planned duration and number of locations visited.

Mosquito traps were set in several major towns in the Pilbara including Onslow, Karratha, Dampier, Roebourne, Cossack, Marble Bar, and the permanent wetlands of Harding Dam and Millstream. Traps were also set at the Kimberley towns of Kununurra, Wyndham (including the Parry Lagoons area), Halls Creek and Derby (including Willare).

Adult mosquitoes were collected in dry ice baited EVS CO<sub>2</sub> (encephalitis virus surveillance) traps. The traps were set at or before sunset and retrieved close to sunrise the following morning. It is estimated that almost 160,000 mosquitoes were collected in approximately 130 traps. The mosquitoes were frozen on dry ice to preserve viruses within the mosquitoes and transported to Perth where they will be tested for viruses of public health significance, including Ross River virus, Barmah Forest virus, Murray Valley encephalitis virus and Kunjin virus.



Left: Over 30,000 mosquitoes trapped in one trap near Wyndham  
Right: Craig Brockway, Biological and Applied EHH, checking a mosquito trap at Marlgu wetland near Wyndham

# Minimised mosquito-borne disease risks



## Sentinel chicken pen review

Pilbara sentinel chicken flocks were visited with the aim of reviewing the infrastructure and husbandry practices at each site, with the last review carried out in 2015. From those findings, a risk matrix was developed for determining the critical features of pen design to improve animal welfare standards.

They documented a significant improvement in the welfare of sentinel chickens across the Pilbara since the original review. Over the past 4 years, heat-related deaths have dropped by 25%, attributed to most pens now having more shade and sprinklers to keep the chicken's cooler during heatwaves.

The team met with local flock carers and EH practitioners to discuss pen improvements and deliver training in sampling techniques. Carers showed

dedication and commitment to constantly improving their pens and practices, including automating their sprinkler cooling systems and adding environmental enrichment such as pools and feeder toys.

A pen design checklist and guideline has since been developed to assist flock carers in improving their pens and for ensuring consistent standards for new pens.

The EHD continues to provide ongoing support and advice in animal husbandry, pen maintenance and animal welfare. By optimising chicken health and welfare, we are ensuring that the sentinel chicken program continues to deliver a reliable early warning system for Murray Valley Encephalitis virus and West Nile Virus (Kunjin subtype).

## *Ehrlichia canis* detection and tick resources

New [online resources](#) detailing the health impacts, prevention strategies and removal recommendations associated with ticks were published. Following the detection of the exotic pathogen, *Ehrlichia canis*, in dogs in the Kimberley region, the Department collaborated with DPIRD in its response to ascertain the distribution of the organism and implement risk mitigation strategies.



Craig Brockway onsite assessing sentinel chicken flock pens.



# Medical Entomology

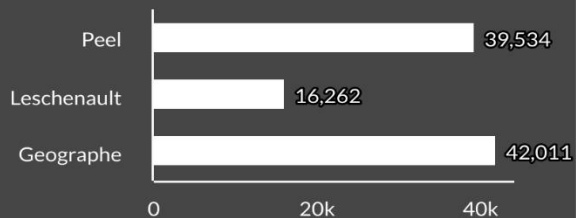
The Biological and Applied Environmental Health Hazards team, manage the Medical Entomology program which provides advice and carries out surveillance, monitoring and control of insects that cause disease or that serve as vectors of organisms that cause disease in humans. Surveillance efforts throughout WA are used to inform public health warnings and interventions.

Total number of mosquitoes trapped over 23 nights in the Southwest of WA

**97,807**



Adult mosquitoes collected



**17**

Ross River virus detections

**0**

Barmah Forest virus detections



31 aerial larvicide applications totalling  
**4,246 ha**



**Sentinel chicken**

flocks managed in WA for the surveillance of flaviviruses

**3,654**

Sentinel chicken blood samples tested

**50**

Mosquito-borne virus infections detected in chickens



**Stakeholder Engagement**

**18**

Local government funding applications assessed

**3**

Media statements issued related to mosquitoes

**1**

Mosquito management courses conducted

# Reduced exposure to hazardous substances



## Illicit drugs' program

In an effort to reduce the health risks posed by contamination resulting from the manufacture and smoking of methylamphetamine (meth, ice) or other drugs, the EHD updated the:

- [Notification and risk management after detection of a clandestine drug laboratory guidelines](#)
- [Interim guidance on management of low-level illicit drug house residues](#)

and released the new [Illegal drug activity in the homes: Managing Risk – A guide for occupants, landlords, property managers and agents](#).

The illicit drug residue assessment and remediation industry is largely unregulated, allowing companies with little or no formal training in scientific sampling or risk assessment to operate. In response to complaints, and a need for cross-jurisdictional agreements, the EHD is developing guidance on behalf of enHealth entitled: "*Recommended Competencies for Illicit Drug Contamination Assessors*". The EHD continues discussions with professional organisations and industry to further address these issues.

The EHD assisted the Department of Mining Industry Regulation Safety and Community LPrevious egal Services, to successfully prosecute a clean-up company and a realestate agent for the non-disclosure of known serious health hazards - including harmful chemical residue left at a residential

property due to it having been used as a clan lab as a breach of the Real Estate and Business Agents and Sales Representatives Code of Conduct 2016 (the Code).

## ChemCentre open day

The EHD organised a stall at the ChemCentre open day to showcase opportunities for budding scientists. Officers described what happens in houses where meth is illegally manufactured. Visitors were provided copies of the relevant EHD guidance material.

## Responding to community PFAS concerns

There has been significant community concern around the possible health effects from the ingestion of low levels of PFAS found to be accumulating in some fresh foods such as shellfish, fish, meat and dairy products and in drinking water. Information to address government, industry and community concerns was updated on the [DOH](#) and [Healthy WA](#) website.



Willow Warren from System Performance educating budding scientists about illicit drug health impacts at the ChemCentre open day



# Reduced exposure to hazardous substances



## Chlorpyrifos use in public spaces

The EHD released a factsheet for local government and industry regarding the [use of chlorpyrifos products in public spaces](#). This follows the Australian Pesticides and Veterinary Medicines Authority's proposed decision to cancel the registration of domestic and home garden products containing chlorpyrifos.

## Asbestos safety conference

The 2019 [National Asbestos Safety Conference](#) took place at the Perth Convention and Exhibition Centre from 11-13 November 2019. The conference hosted over 50 speakers across 11 plenary sessions, 6 breakout track sessions and 2 panels and welcomed over 250 domestic and international delegates from a range of sectors including work health and safety, public health, local government and the environment.

The [National strategic plan for asbestos awareness and management 2019-2023 \(NSP 2019-2023\)](#) was also officially

launched at the event. EHD staff presented on "Exposure and health issues in indigenous communities", and participated in a panel session titled "Public health and preventing exposure to asbestos: what is working?"

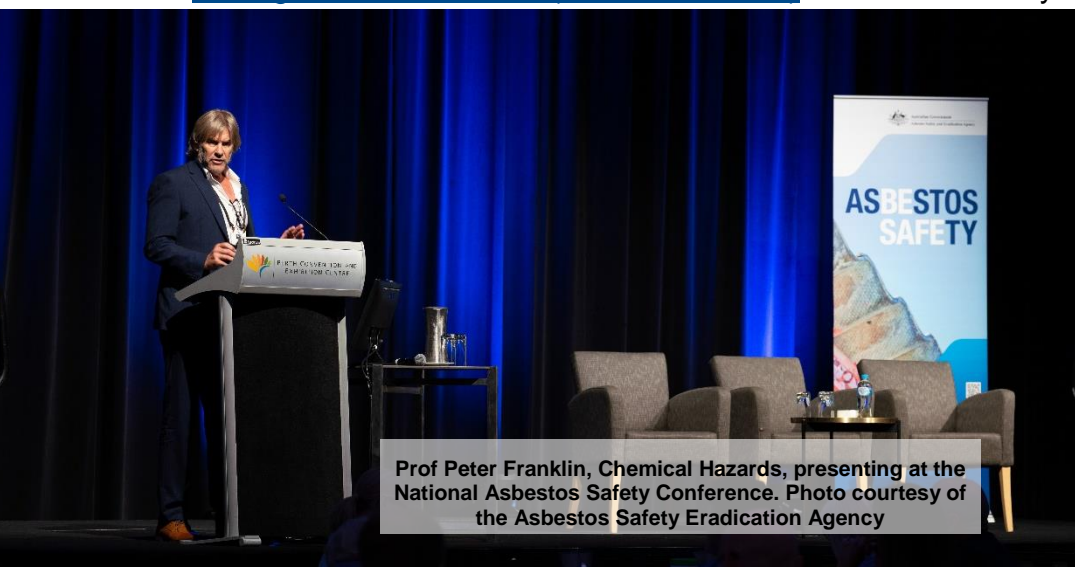
## Review of the asbestos in soil guidelines

The EHD initiated a review of the [2009 Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia](#), which have been used throughout Australia, and informed asbestos practice in New Zealand. Although the document has worked well, the experience gained and changing circumstances has prompted its revision. As part of the consultative process, the EHD held a [workshop](#) on key proposed changes in the Guidelines.

Fifty people attended from a diverse range of organisations including relevant government departments, consultants, auditors, local governments and planning agencies. The feedback was very positive and along with 30 other major written submissions will be the basis for the release of the revised Guidelines in late 2020.

## Fumigation guidance

[Fumigation approval guidance](#) was updated to assist the fumigation industry be aware of their obligations and responsibilities for conducting fumigations in WA. The approval process for conducting fumigation treatments is administered under the *Health (Pesticide) Regulations 2011* (the Regulations). Fumigants containing the active ingredients



Prof Peter Franklin, Chemical Hazards, presenting at the National Asbestos Safety Conference. Photo courtesy of the Asbestos Safety Eradication Agency

# Reduced exposure to hazardous substances



listed in the Regulations are 'restricted use' pesticides that have the potential to cause a significant risk to the public following an exposure. The fumigation guidance was developed to supplement the withdrawal of the *AS 2476-2008 General Fumigation procedures* by Standards Australia.

## Fumigation prosecution

The EHD prosecuted a pest management technician, resulting in a \$5,000 fine. The technician failed to use a pesticide in accordance with the registered label, causing acute side effects in an individual working on the premises. The EHD acknowledges the important role that the local government EHOs played in this investigation.

## Smoke from landscape fires projects

EHD was involved in two projects to address the health impacts from exposure to smoke from fires (bushfires, prescribed burns, residential woodheaters) including:

### Project 1: The effect of smoke from landscape fires on EDAs in Perth

Landscape fires, which includes bushfires and planned burns, can generate smoke that can impact nearby communities. The Epidemiology Branch of the DOH, in collaboration with the EHD, Curtin University, Bureau of Meteorology (BOM), and NGIS (a private company), undertook a study to model the trajectory of smoke plumes to better understand

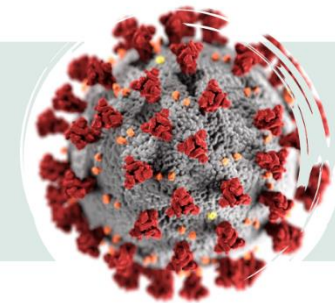
community exposure to smoke-related fine particulate matter (PM<sub>2.5</sub>), and use this model to investigate the association between smoke exposure and emergency department admission (EDAs) for lung and heart diseases. This study found that on days with high smoke-related PM<sub>2.5</sub> there was, on average, a 5% increase in all cause EDAs, 7% increase in EDAs for heart disease and up to 19% increase in EDAs for respiratory infections. The results support the need for developing early warning systems and good public health advice for smoke from landscape fires.

### Project 2: Smoke-warning system for asthmatics

A consortium led by AsthmaWA, and including the EHD, BOM, and the Departments of Fire and Emergency Services (DFES), Biodiversity, Conservation and Attractions (DBCA) and, DWER, were awarded a grant from the Natural Disaster Resilience Program to develop an early warning system for the effect of smoke from prescribed burn offs to better inform people with asthma. The aim is to provide asthmatics with information about possible smoke events so that they can be adequately prepared with medications and avoidance actions. Currently, warnings are sent via a facebook page that people are invited to join. Warnings are based on when burns are planned, which may or may not subsequently lead to a smoke haze. In the long-term, warnings will be based on new modelling that is being trialled by BOM. The models will allow for more targeted and realistic warnings.



# Mitigated impacts of environmental health emergencies and emerging risks



**The EHD participated in a range of activities to support the State's response to the COVID-19 pandemic.**

## **COVID-19 seminar for local government EH workforce**

Early into the pandemic the EHD partnered with the Public Health Emergency Operational Centre (PHEOC) to host a briefing to the local government EH workforce on the rapidly evolving COVID-19 pandemic. This was one of the few seminars held for a professional group before WA entered restrictions and was required to adhere to physical distancing requirements.



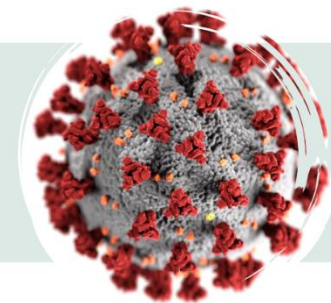
COVID-19 seminar for local government Environmental Health Officers held in early March 2020

## **COVID-19 support for EH workforce and industry**

As the pandemic rapidly escalated and PHEOC and the State Health Incident Control Centre (SHICC) response teams had to substantially increase the size of their teams to keep up with demand, the EHD formed a COVID-19 team to manage the significant influx in email and telephone queries. Over 450 phone calls and more than 500 emails were received during a short period of time, mostly from local government and industry sectors seeking clarification of the Emergency Management (EM) Directions that placed restrictions on the many businesses typically managed under the environmental health portfolio. This included aquatic facilities operators, event organisers, food businesses and beauty therapists to name a few.

The EHD COVID-19 team liaised with PHEOC, the WA Police (WAPOL) and the DPC to seek clarification around the EM Directions and raise awareness about communication challenges. As a result of continued advocacy by the EHD for the need for an across agency team to address high level queries related to the Closure and Limit the Spread EM Directions, a group was formed which included representation by WAPOL, EHD, SHICC, DPC and DLGC. The EHD also instigated the formation of an internal Department team involving representatives from SHICC, PHEOC and the EHD. This supported consistency in decision making, which improved our communications with the EH workforce.

# Mitigated impacts of environmental health emergencies and emerging risks



## COVID-19 WALGA briefings to local government

Dr Michael Lindsay, Executive Director of the EHD, presented at two WA Local Government Association (WALGA) video seminars aimed at Chief Executive Officers (CEOs) and Mayors. The first seminar was held on 20 March 2020, and provided an update on the rapidly evolving COVID-19 situation, including the role of EHOs to support the local community. The second seminar held on 15 May 2020 included a briefing from the EHD, State Emergency Coordinator, Commissioner Chris Dawson, WAPOL and the Hon Roger Cook MLA on the COVID-19 safety plans and guidance released to support the food and hospitality industries, and the important supporting role that the EH workforce can play to educate industries.

## COVID-19 CHO request for list of authorised officers

On behalf of the CHO, the EHD lead a request to obtain a list of all local government officers authorised under the Public Health Act in preparation for any potential need to further authorise the EH workforce with additional emergency management powers. The turnaround time for the submission of information was one day. The EHD commends the local government response, with all 138 WA local governments submitting a list. This highlighted the willingness and ability for local government to be prepared and ready to support the States response. Although authorised officers were not issued additional regulatory powers, EHOs played a critical educational role in informing, guiding and advising businesses about the restrictions.

## COVID-19 Environmental Health circulars

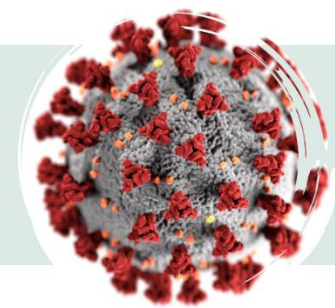
In the early stages of the COVID-19 pandemic, the EHD recognised the important need to keep the local government EH workforce informed as a priority on COVID-19 restrictions to ensure EHOs were able to support the many local industries impacted by the EM Directions being released at a rapid rate. Over twenty-four email circulars were sent to EHOs authorised under the Public Health Act providing advice to assist with interpretation and application of the EM Directions.

Left to right: The State Emergency Coordinator, Commissioner Chris Dawson, WAPOL, Hon Roger Cook MLA and Dr Michael Lindsay, EHD discussing COVID-19 restrictions to local government





# Mitigated impacts of environmental health emergencies and emerging risks



## COVID-19 EH publications and COVID safety plans

A substantial number of queries, both anticipated and unanticipated, were asked about various COVID-19 environmental health impacts. The EHD responded by researching and issuing or contributing to a series of information resources including:

### EHD publications

- COVID-19: Public events (12 March)
- COVID-19 and environmental health risks in WA (1 April)
- Maintenance of aquatic facilities during COVID-19 closures (3 April)
- Food Safety and COVID-19 (21 April) -
- Recommissioning of buildings – water supply and water related services (5 May)
- Events and mass gatherings position statement (12 June)
- Events COVID-19 safety guidelines (12 June)

## COVID Safety Guidance and Plans

The EHD contributed towards COVID-19 safety guidance and plans published on the [WA Government website](#) for:

- Food businesses
- Beauty and personal care services
- Events

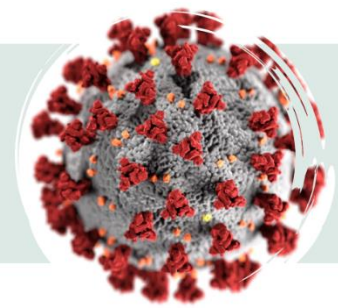
### Joint agency projects

- enHealth Water – EHD contributed to the Water Sanitation, Hygiene and COVID-19 Factsheet
- COVID 19 WA Aquatic Industry Re-activation Checklist

### Mandatory hospitality training course

DPC and Tourism WA approached the EHD to discuss the Premier's initiative for mandatory COVID-19 hygiene training for the hospitality and tourism industries. To support the Premier's initiative the EHD reviewed Food Act compliance information specified in the training package.

# Mitigated impacts of environmental health emergencies and emerging risks



## Environmental Health staff joined SHICC

To support the pandemic response four EHD staff joined SHICC in March 2020 to drive environmental health related matters and provide necessary skills.



Left to right: Dr Andrew Jardine, Natalia Ramswell, Dr Pete Neville and Ryan Janes from the EHD join SHICC to assist with the pandemic response.  
Left image: SHICC commemoration coin

## Chemical attack preparedness

The Department's Disaster Management Planning Unit undertakes an annual four day training course to help prepare health professionals to deal with the possible health consequences of any chemical, biological or radiological attack or major incident.

EHD presented at the event on the risks from possible attacks involving three categories of chemicals; blister, blood and choking agents, such as sulphur mustard, cyanide and chlorine, respectively. These materials have already been used in war or terrorist attacks, and some also pose a potential public risk from accidental release during their legitimate use in industry and other sectors.





# Organisational supports



## Organisational supporting activities

### Our staff

#### Workforce planning: Realignment phases 1 and 2

Internal workforce planning and alignment is a significant long-term project for the EHD. A detailed Project Plan identifies two distinct stages. Work began on stage one in 2019 to reclassify and realign EHD positions to reflect the major structural realignment that occurred in response to the number of positions lost during the voluntary severance programs in 2017-2018. Stage one included a review and amendment of position descriptions from entry level to managing scientists across the Directorate.

Stage two is being developed and includes scope, risks, consultation and timeframes for the anticipated project completion in 2021. Phase two will review of the effectiveness of the restructure, and support the development of a three-year workforce plan for EHD staff.

#### Reinstating the quality management system

A project to reinstate the EHD Quality Management System (QMS) was initiated in December 2019 to ensure the Standard Operating Procedures (SOPs) reflect the core functions and statutory obligations of the EHD.

The initial stages of this project are to develop and approve the high priority SOPs which reflect the statutory requirements under Environmental Health legislation. Medium and low priority SOPs will then be developed to ensure the QMS reflects all functions of the EHD. Twenty-nine high priority SOPs have been identified for completion as a matter of priority.

### Our performance

#### Drafting of the EHD Strategic Plan 2020-2023

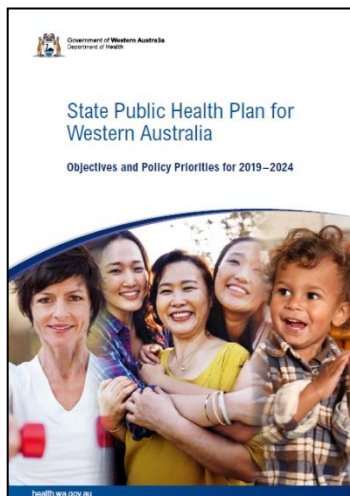
The EHD Strategic Plan 2020-2023 was drafted, outlining three core outcomes, eight key objectives and six main organisational supports. This Plan was endorsed mid-2020. Each team is now required to document and report key actions that will support the achievement of these objectives and implemented over the coming three years. The Plan aligns with the environmental health objectives specified in the State Public Health Plan, WA Sustainable Health Review and WA Health Strategic Intent.

# Organisational supports

## Our impact

### State Public Health Plan

On behalf of the Chief Health Officer, the EHD coordinated the review and release of the [State Public Health Plan for Western Australia 2019-2024](#) (the Plan) in time for July 2019. The Plan provides high level strategic directions focusing on prevention, health promotion and health protection strategies that aim to prevent disease, illness, injury, disability and premature death in Western Australia.



An important achievement was the collaboration and partnership with the Mental Health Commission to incorporate mental health and other drug related priorities for the State. The State PH Plan is intended to support local governments commencing or continuing the public health planning process. Local governments can consider the Plan's priorities and adapt them as necessary to reflect the public health risks prevailing in its local district.

The Plan was communicated to stakeholders across WA. With the release of the Plan many local governments have now indicated they will commence the process of developing their plans.

## Our technology

### WA food vendors online register

The WA Mobile Food Vendor Register website will enable participating enforcement agencies to both search and update a single, centralised register of temporary and mobile food businesses. Development of the pilot website is complete, and final approval is pending from the Department's Information and Communications Technology (ICT) team before it can be released for further a trial by local government.

As temporary and mobile food businesses move across local government districts, the website will offer enforcement agencies the opportunity to have readily available secure access to administration details to consistently apply the provisions of the Food Act 2008. The EHD is now in the process of developing an MOU to support information sharing between local government authorities and the Department who register to the site in the future.

### Into the future project

The System Performance Team has initiated a project called Into the Future, which analyses the team's processes in terms of audit, inspections and assessments and will streamline and reduce administrative time by developing technology solutions to do audits, inspections and assessments with automation of processes like sending out audit reports. The EHD is the lead enforcement agency required to ensure industry compliance with a range of public health laws.



# Organisational supports

These include:

- public hospitals and aged care facilities
- dairy (primary production, processing, transportation)
- seafood (primary production or manufacturing of bivalve molluscs)
- food business not within a local government area (Kings Park, Rottnest Island, State Athletic Stadium and the WA Basketball Centre)
- tobacco sellers
- pesticide businesses

## Our stakeholders

### Stakeholder engagement survey

A stakeholder engagement survey was released at the beginning of 2020 to measure the effectiveness and quality of our services, identify strategies to improve our services to local government and identify emerging issues among the environmental health workforce.

A total of 72 response were received. The analysis of the results had to be put on hold as attention was focused on the COVID-19 response. However, a report will be produced identifying key recommendations for enhancing our services. Overall 51% of respondents were either satisfied or very satisfied with our overall service with 35% were neither satisfied or dissatisfied with our overall service.

### EH regional meetings

Staff from the EHD attended local government EH meetings in both the regions and metropolitan area until COVID-19 restricted face to face attendance.

Some regions converted to video conferencing during the pandemic which allowed the continuation of discussions and provided an opportunity for COVID-19 updates.

The EHD supports the use of video conferencing programs such as Microsoft Teams into the future. This enables multiple EH staff to participate in regional meetings when required, reducing the time and costs required for travelling large distances across the State.



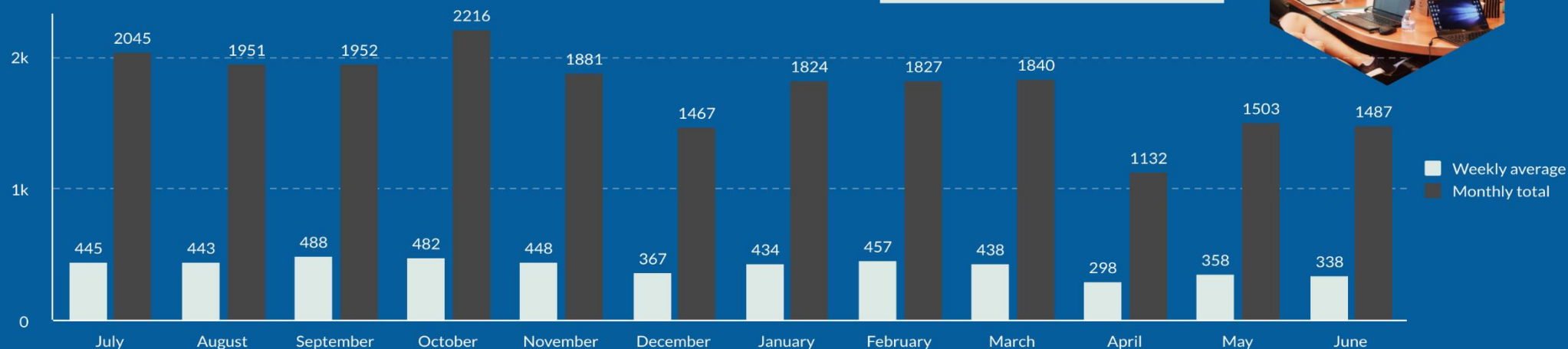
EHD staff attended the North West Regional EH meeting in October 2019

# Communication activities



## Volume of incoming phone calls to the EHD customer service desk

**Total calls: 21,125**  
**weekly average: 416**



## Media releases issued

**15**

|            |   |            |   |
|------------|---|------------|---|
| 18/12/2019 | Shellfish, crabbing and fishing warning for the Swan River: Pelican Point to Como Jetty and upstream to Tonkin Highway Bridge | 03/06/2020 | Legionnaires' Disease reminder for metropolitan Perth                     |
| 03/12/2019 | Water users to be aware of deadly amoebic meningitis risk   | 29/05/2020 | All-clear for fishing and crabbing in the Swan and Canning Rivers         |
| 18/11/2019 | Timely reminder to replace asbestos roofing   | 09/04/2020 | Algal bloom update 6 - Swan and Canning rivers                            |
| 08/11/2019 | Play it Food Safe in Busselton to reduce food poisoning   | 31/03/2020 | Pilbara and Kimberley warned of increased Murray Valley encephalitis risk |
| 01/11/2019 | Frozen meals recall warning   | 28/02/2020 | Health warning following increase in Cryptosporidiosis notifications      |
| 02/01/2020 | UPDATE: Shellfish crabbing and fishing warning for Swan River   | 14/02/2020 | Mosquito-borne disease warning for Kimberley                              |
| 26/06/2020 | Unseasonal Ross River virus activity in the South West  | 24/01/2020 | update: Swan and Canning algal bloom warning remains in place             |
|            |   | 09/01/2020 | Second update: Algal bloom warning extends to Canning River               |





# Communication activities

## Ministerial activities



- Ministerial correspondence (388)
- Freedom of information requests (29)
- Parliamentary questions (6)
- Contentious issues briefing notes (3)
- Cabinet comments (11)

## Common ministerial topics



Pregnancy warning labels on alcohol products

5G

5G technology



Labelling of fats and oils

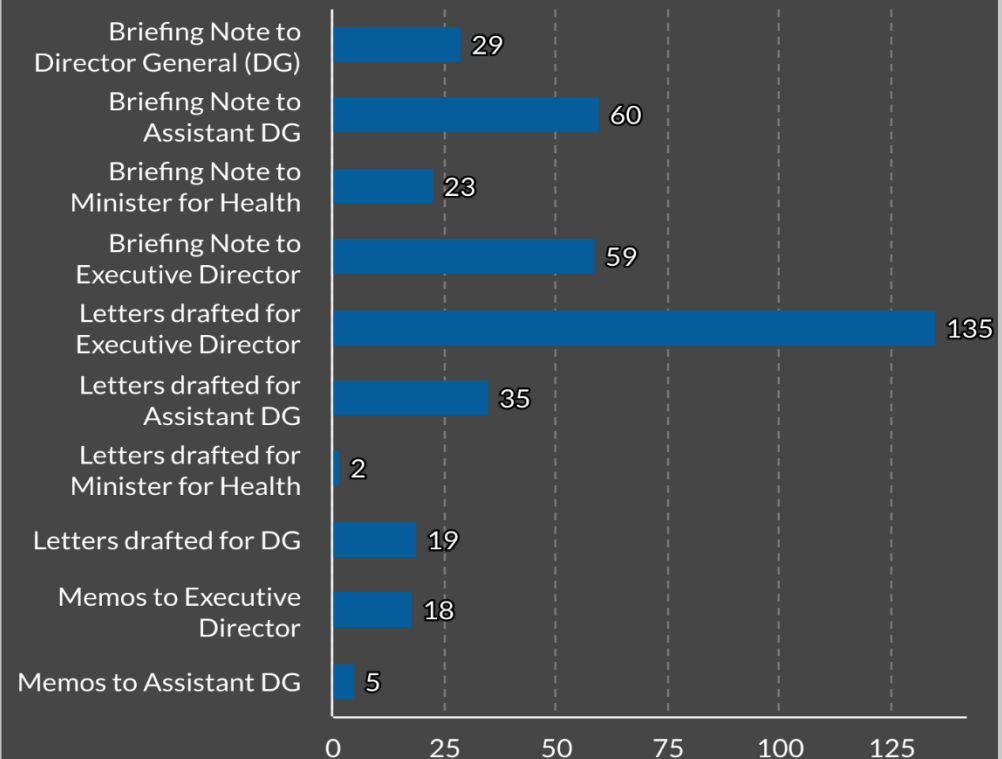


Fluoridation of drinking water



Health rating star

## General communication activities



**PREGNANCY WARNING**  
Alcohol can cause lifelong harm to your baby

# Publications



The following peer reviewed publications were co-authored by individuals from the EHD:

**Discovery of Jogalong virus, a novel hepacivirus identified in a *Culex annulirostris* (Skuse) mosquito from the Kimberley region of Western Australia**

Simon H. Williams, Avram Levy, Rachel A. Yates, **Nilusha Somaweera**, **Peter J. Neville**, **Jay Nicholson**, **Michael D. A. Lindsay**, John S. Mackenzie, Komal Jain, Allison Imrie, David W. Smith, W. Ian Lipkin, PLoS One, January 2020.

**Genome-Scale Phylogeny and Evolutionary Analysis of Ross River Virus Reveals Periodic Sweeps of Lineage Dominance in Western Australia, 1977–2014**

Alice Michie, Vijaykrishna Dhanasekaran, **Michael D. A. Lindsay**, **Peter J. Neville**, **Jay Nicholson**, **Andrew Jardine**, John S. Mackenzie, David W. Smith, Allison Imrie, Journal of Virology, 2019.

**Infection of Western Gray Kangaroos (*Macropus fuliginosus*) with Australia Arboviruses Associated with Human Infection**

Narayan Gyawali, Andrew W. Taylor-Robinson, Richard S. Bradbury, **Abbey Potter**, and John G. Aaskov, Vector-Borne and Zoonotic Diseases, Volume 20, 2019, No 1.

**The contribution of geogenic particulate matter to lung disease in Indigenous children**

Carrington C. J. Shepherd, Holly D. Clifford, Francis Mitrou, Shannon M. Melody, Ellen J. Bennett, Fay H. Johnston, Luke D. Knibbs, Gavin Pereira, Janessa L. Pickering, Teck H. Teo, Lea-Ann S. Kirkham, Ruth B. Thornton, Anthony Kicic, Kak-Ming Ling, **Zachary Alach**, **Matthew Lester**, **Peter Franklin**, David Reid and Graeme R. Zosky, International Journal of Environmental Research and Public Health, Volume 16, 2019 - Issue 15.



# Financial overview



**\$8.33 million**

for the provision of environmental health services in Aboriginal communities



**\$3.1 million**

for testing of water and food samples through PathWest



**\$260,000**

provided for CLAG funding to certain local governments to manage mosquito impacts



**\$525,000**

used for helicopter larviciding contract to control mosquito breeding in WA



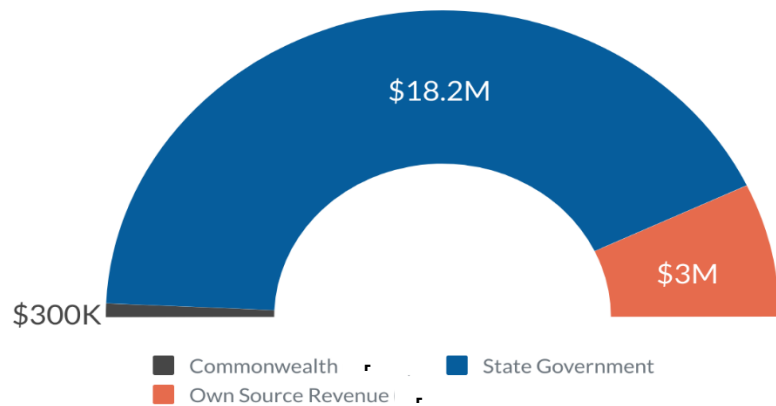
**\$59,000**

WA contribution for the 'Front of Pack Labelling' project

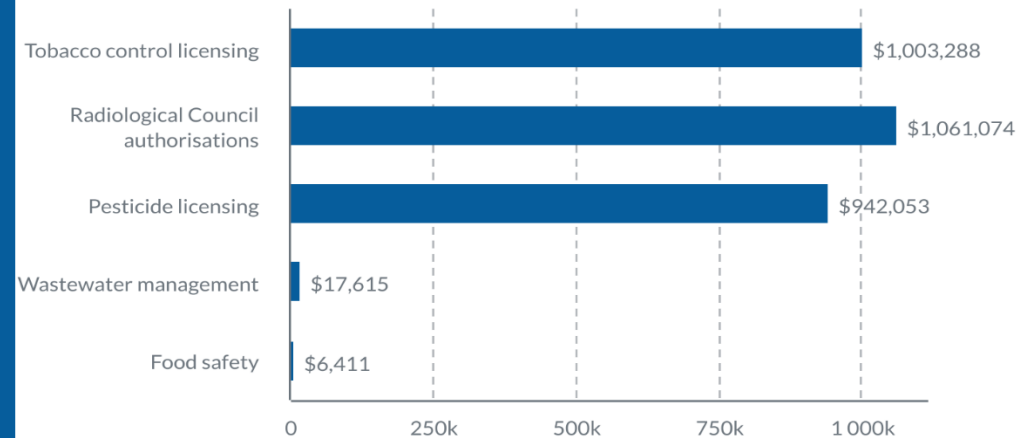


# Financial overview

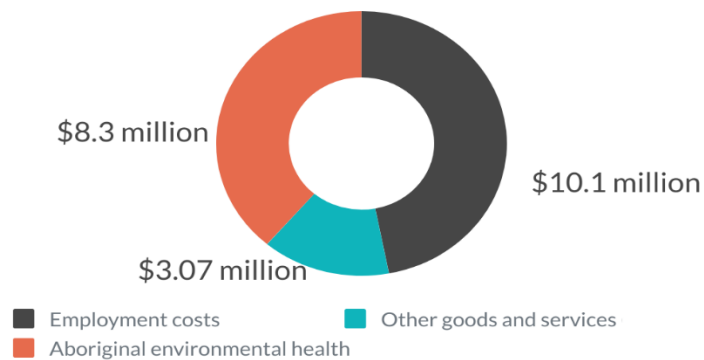
## Total funding \$21.5 million



## Own sourced revenue breakdown

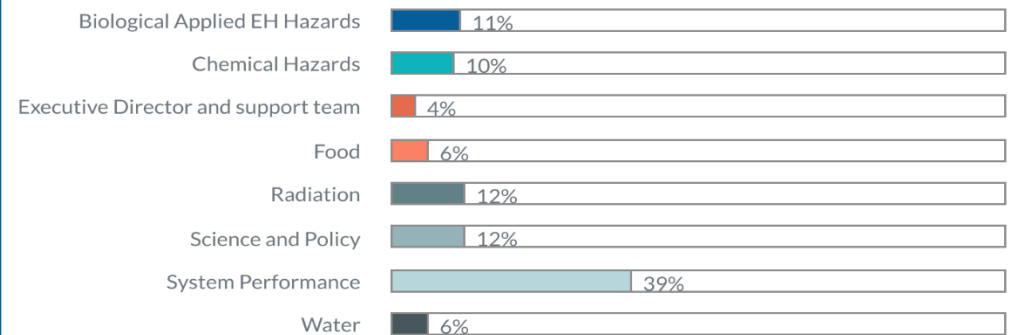


## Total expenditure \$21.5 million



## Workforce distribution by teams

82 full time equivalent positions



EHD employee expenditure \$9.8 million



# Glossary



|                              |  |
|------------------------------|--|
| BOM                          | Bureau of Meteorology  |
| CDCD                         | Communicable Disease Control Directorate                     |
| Department                   | Department of Health   |
| DAWE                         | Department of Agriculture, Water and Environment             |
| DWER                         | Departments of Water and Environmental Regulation            |
| DPC                          | Department of Premier and Cabient                            |
| EDA                          | Emergency Department Attendance (EDA)                        |
| EH                           | Environmental Health   |
| EHD                          | Environmental Health Directorate                             |
| EHO                          | Environmental Health Officer                                 |
| EM                           | Emergency Management   |
| FBIRS                        | Foodborne Illness Reduction Strategy                         |
| Food Act                     | <i>Food Act 2008</i>   |
| FTE                          | Full time equivalent   |
| Miscellaneous Provisions Act | <i>Health (Miscellaneous Provisions Act) 1911</i>            |
| MVE                          | Murray Valley encephalitis                                   |
| NACCHO                       | National Aboriginal Community Controlled Health Organisation |
| PHEOC                        | Public Health Emergency Operations Centre                    |
| Public Health Act            | <i>Public Health Act 2016</i>                                |
| PFAS                         | Per-and-Polyfluroalkyl Substances                            |
| SHICC                        | State Health Incident Coordinators Centre                    |
| WASQAP                       | WA Shellfish Quality Assurance Program                       |
| WAPC                         | Western Australian Planning Commission                       |

Thank you to the team at the Environmental Health Directorate and our many partners in environmental health.

#### Contact us



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