### Records Disposal Schedule - Context Statement

### South Australian Research and Development Institute (SARDI)

### History and Background

The South Australian Research and Development Institute (SARDI) was established by the South Australian Government on 8 October 1992 to direct, fund and promote public sector research and development in primary industries in South Australia, responsible for the State’s primary industry-related applied research and development.

The new State-based publicly-funded research institute was a ground-breaking concept at the time, and highly successful in attracting leading scientific researchers, industry funding and strong research collaborations. SARDI was created from the research divisions of the former Departments of Agriculture, Fisheries, and Woods and Forests. The arrangement to include the Woods and Forests research group was never implemented.

SARDI was established as an independent agency, managed by the South Australian Research and Development Institute (SARDI) Board, whose role was that of corporate governance and of ensuring the South Australian government's objectives for economic development were facilitated through research and development services.

Initially SARDI was located in the Grenfell Centre. In April 1995, it commissioned the Plant Research Centre, a purpose built research and corporate headquarters facility situated on the Waite Research Precinct at Urrbrae. SARDI was focussed on four strategic areas of research and delivery to central agencies of government and industry.

As a result of government agency restructuring in 1997, SARDI became a unit of the Department of Primary Industries and Resources SA (PIRSA). Consequently, the South Australian Research & Development Institute (SARDI) Board was disbanded.

From 1998 the focus on developing the capabilities of research centres included planning and development for an integrated livestock management initiative at Roseworthy, a fish brood stock research hatchery at West Beach and a Plant & Food Biotechnology Centre at Waite.

In April 2000 SARDI gained international recognition from the birth of Australia’s first cloned Merino sheep, Matilda. The research project was a collaboration between SARDI and the Adelaide University with funding from the Cooperative Research Centre for Premium Quality Wool.

SARDI led negotiations to establish the Australian Grain Technologies Pty Ltd, a wheat breeding company established in 2002 was a joint venture between SARDI, The University of Adelaide and the Grains Research and Development Corporation to deliver better wheat varieties faster, and considered the most successful grain/crop breeding company in Australia and of world standing. The Australian Centre for Plant Functional Genomics at Waite campus was also opened in 2002 establishing a new $9.2 million world class research and development centre for Australia’s bioscience industry.

SARDI Food Safety Research Program won the prestigious 2005 SA Great Science and Technology Award for practical and effective control steps to protect consumer safety and in 2010, SARDI was considered a world leader in DNA diagnostics when it unveiled a new method in identifying potato diseases which was breakthrough technology for the nations potato industry estimated to decrease approx. $80 million lost each year to disease and substandard products.

Created under the leadership of founding Chief Executive Dr John Radcliffe, Professor Rob Lewis was appointed as Executive Director of SARDI in 1993 with Dr Don Plowman appointed as Director Research and Development. On retirement in 2007, Rob Lewis was succeeded by Affiliate Professor Dr Pauline Mooney as A/Executive Director. She was officially appointed to the position in 2010, succeeded by Dr Kathy Ophel Keller in 2015 as A/ Executive Director until Dr Peter Appleford commenced his appointment as the new Executive Director in June 2017.

As of June 2017, the structure of PIRSA consists of 8 Divisions: Agriculture Food & Wine, Biosecurity SA, South Australian Research and Development Institute (SARDI), Forestry, Fisheries & Aquaculture, Regions SA, Rural Solutions SA, Corporate Services.

SARDI continues to provide research and development services to the state government, commercial clients and research partners to help make South Australia’s primary industries and regions internationally competitive and ecologically sustainable. The research strives for positive ecological outcomes to conserve our marine, fresh water, soil and plant resources. SARDI scientists create opportunities for farmers, food producers and other industries such as fisheries and aquaculture to adapt to biosecurity, market access, climate variability, environmental challenges and other issues.

SARDI has achieved national and global recognition with regard to its work in transgenesis and cloning, plant breeding, fisheries management technologies, along with the high profile collaborations between SARDI, the University of Adelaide and other partners on the Waite campus. Other major achievements included the promotion and support for commercialisation, the Lucerne breeding program, root disease testing service, fleece measurement services, commercialisation of pasture and crop varieties and animal reproductive technologies.

SARDI’s innovations include new products, new technologies, new farm practices and new ways of using and protecting our natural resources; all of which are key elements of the South Australian Government’s strategic priority of Premium Food and Wine from our Clean Environment.

1. Insert information about when and how the agency was first established and summarise any significant administrative changes or developments affecting the agency prior to its current role and functions/s. This can be obtained from annual reports, government gazettes, agency registrations submitted to State Records, historical publications about the agency and/or the agency website.
2. Insert, as a footnote, sources used for completing the Agency History and Background.

###  Role and Function

The South Australian Research and Development Institute (SARDI) is the State Government’s principal research institute and delivers scientific solutions to support sustainable and internationally competitive primary industries.

SARDI’s priorities include:

* providing expert advice on marine and freshwater resource management, including fisheries and aquaculture
* providing expert advice on the management of climate risks and variability in South Australian crop production
* developing new technologies for surveillance of key terrestrial and aquatic pests and diseases
* providing the diagnostic capability to respond to incursions of pests and pathogens across all South Australian industries
* providing services to support food safety, integrity and innovative new product development for South Australian food businesses
* Supporting sustainable and ethical production in intensive livestock industries.[[1]](#footnote-2)

SARDI manages the Australian Pastures Genebank (APG) which is the custodian to Australia’s largest collection of pasture and forage germplasm material. The APG acquires, documents, conserves, maintains and distributes plant genetic resources of pasture and forage species of actual or potential value to Australian agriculture under the understanding that the germplasm and related information would be freely available for the purposes of scientific research, plant breeding, genetic resource conservation and education. This occurs under the terms of a Standard Material Transfer Agreement (SMTA) in accordance with the Multilateral System of Access and Benefit Sharing of the International Treaty on Plant Genetic Resources for Food and Agriculture.

The APG has been operational since December 2014 with a backup of accessions is housed in the Global Seed Vault located in Svalbard, Norway.

SARDI also manages the PIRSA Animal Ethics Committee (AEC) which is responsible for ensuring all research, teaching and experimentation using animals by PIRSA personnel or collaborators is compliant with the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes. The AEC provides ethics approval and clearance to:

* conduct research, experimentation or teaching that involves animal interventions beyond routine animal husbandry procedures,
* use animals for teaching, research or experimentation,
* collaborate on work that includes the use of animals
* Hold animals on PIRSA premises.
1. Insert information about the current role and function/s of the agency. This can be obtained from annual reports, strategic planning documents and agency promotional material and/or the agency website.
2. Insert, as a footnote, sources used for completing the Agency Role and Function.

###  Structure Description

SARDI corporate headquarters are located at the Plant Research Centre on the agri-science precinct at the Waite Campus, South Australia which provides facilities for research in crop breeding and evaluation, irrigated horticulture, sustainable resources management, entomology, plant pathology and soil health, molecular diagnostics, water utilisation, pasture research and associated disciplines.

SARDI is organised into dedicated science programs in 3 key research areas and a unit providing business support.

* Aquatic Sciences
* Livestock and Farming Systems
* Sustainable Systems
* Business Support.

Metropolitan sites include;

* The Plant Research Centre – supports services for climate applications and adaptation, entomology, plant pathology, field crops and new variety agronomy, molecular diagnostics, root disease, viticulture, feed and forage, food safety and innovation, plant and soil health, water resources and irrigated crops
* North Arm Store, Gillman is the main mooring of the Research Vessel Ngerin which provides Aquatic Sciences Research Support
* South Australian Aquatic Sciences Centre at West Beach which supports services for aquaculture, oceanography, fisheries, inland waters and catchment ecology, marine ecosystems, animal health and biosecurity.

Regional centres include:

* Aquatic Sciences Mount Gambier - support research in abalone and the rock lobster industry.
* Clare and Port Lincoln Field Crops units - support agronomy, tillage and seeding research.
* Loxton and Nuriootpa Research Centres - support the viticulture, irrigation and horticulture industries.
* Lincoln Marine Science Centre - conducts research in aquatic industries, aquaculture and the aquatic environment.
* Minnipa Agricultural Centre - supports development of farm management practices for low rainfall environments and the cereal growing areas of the Eyre Peninsula.
* Roseworthy Campus – supports pig and poultry program research.
* Struan and Turretfield Research Centres - support livestock, pasture and crops research.

**Aquatic Sciences**

The SARDI Aquatic Sciences programs helps to deliver the sustainable growth of South Australian aquaculture industries and protects our wild fisheries and freshwater resources and their environments through innovative science. Staff are located at the South Australian Aquatic Sciences Centre at West Beach in Adelaide, the Lincoln Marine Science Centre at Port Lincoln and a research centre at Mount Gambier.

The major science programs cover:

* Fisheries – conducts biological, ecological and fisheries research and modelling and provides scientific advice to State and Commonwealth governments on issues related to the ecologically sustainable utilisation of Australia’s fisheries resources. The program includes the following fisheries – finfish, offshore and inshore crustacean, molluscan as well as fisheries modelling.
* Aquaculture – focuses on developing new technologies, species and sites for aquaculture, while enhancing the competitive advantage – and minimising the risks – of existing aquaculture industries in brackish, freshwater and marine environments. The five interacting subprograms cover Propagation and Systems, Nutrition and Feed Technology, Genetics, Reproduction and Biotechnology, Aquatic Animal Health and Welfare, and Algal Production.
* Marine Ecosystems – provides scientific and technical advice across government, industry and the community about key issues in the management of marine environments. Research activities are carried out by six subprograms: Oceanography, Aquaculture Environment, Benthic Ecology, Environmental Assessment, Mitigation and Rehabilitation, Marine Pests, and Threatened, Endangered and Protected Species.
* Inland Waters and Catchment Ecology – looks at the conservation and management of freshwater dependent systems, including native fish resources and habitats in the Lower Murray-Darling Basin. Four subprograms – Climate and Catchment Ecology, Fish Ecology, Invasive Species, and Plant Ecology – provide scientific and technical advice to government, industry and the community on key issues such as ecosystem processes, ecology and population dynamics of freshwater and estuarine fish, molluscs and crustaceans.

**Livestock and Farming Systems**

The Livestock and Farming Systems programs assists animal and mixed farming industries to achieve economic and sustainable levels of production of high-quality, competitively priced produce, by conducting research and encouraging technological improvement. The development and marketing of these industries and products, and the provision of science policy advice to government, are two key objectives. Science programs fulfil key roles in the plan for research, development and extension (RD&E) in Australia’s pork, poultry and animal welfare sectors under the National RD&E Framework.

Livestock and Farming Systems employees are located at various sites cross South Australia, including Roseworthy Campus (divisional headquarters), Turretfield Research Centre, Waite Campus near Adelaide, Minnipa Agricultural Centre (Eyre Peninsula) and Struan Research Centre (South East).

The major science programs cover:

* Pigs and Poultry – provides research and development in nutrition, housing, reproduction, health and welfare and meat hygiene for the pork, chicken meat and egg industries in South Australia, Australia and internationally. SARDI experts lead and conduct innovative and practical research that enhances the economic growth of the Australian pork and poultry industries, as well as expands education and training capabilities as part of its national RD&E commitments.
* Animal Reproduction – aims to improve livestock reproduction, utilising cutting-edge techniques including molecular biology, embryo technologies, stem cells and genome editing. The program provides specialist services and innovative research capabilities in reproduction for sheep and cattle to enhance genetic improvement programs, breeding efficiency and to ensure animal welfare and product quality.
* Farming Systems – undertakes research and development focused on liaison with farmers and advisers in South Australia, especially in low-rainfall environments. The science program is widely recognised for its ability to assess new and existing information in a whole-farm context, using knowledge from a range of areas including soil science, plant physiology, agronomy, animal science and sustainable farming techniques.
* Food Safety and Innovation – provides scientific and technical advice to government and industry that aims to protect public health and market access and assist the growth and economic development of South Australia’s and Australia’s food industries. The program is run by specialists in a broad range of disciplines, from food science, chemical engineering, sensory science, human and veterinary public health, toxicology, microbiology, and virology and risk management.

**Sustainable Systems**

SARDI’s Sustainable Systems science programs support improved productivity and sustainability of primary industries. The programs work collaboratively at national and regional levels to deliver targeted research outcomes and cover a range of industries, including broadacre crops such as cereals, oats, vetch, pulses and oilseed, viticulture and horticulture. Scientific teams work in pest and disease management, climate adaptation and improved cropping systems, including specialised expertise in molecular diagnostics and plant genetics.

Employees at seven locations around SA conduct research in a range of conditions, from Port Lincoln and Minnipa on Eyre Peninsula and Loxton, Turretfield and Roseworthy, north of Adelaide, to higher rainfall zones at Clare, Struan and the Waite Research Precinct.

The major science programs cover:

* Climate Applications – addresses both short and long-term climate variability, delivering information on climate risk management to managers of agricultural and natural systems in South Australia.
* Water Resources, Viticulture and Irrigated Crops – addresses water and nutrient management across South Australia’s wine grape and irrigated horticulture production regions, as well as research to reduce the impacts of salinity.
* Crop Improvement – molecular genetic tools are used to understand key traits in species of importance to cereal and legume improvement. The main focus is on identification of genes and linked molecular markers for quality, disease resistance and abiotic stress traits. A pasture improvement program is also developing improved varieties, agronomic practices and management systems for farming and the environment in South Australia.
* New Variety Agronomy – integrates new variety evaluation, pulse pre-breeding, breeding, agronomic research and market quality evaluation capabilities to facilitate adoption of high-yielding and profitable grain varieties which are well adapted. The group has a network of regional research teams based at Struan, Clare, Port Lincoln and Waite.
* Entomology – develops integrated pest management solutions for grains industries, horticulture and viticulture as well as for forestry and urban settings. The group has expertise in insect taxonomy, ecology and molecular biology, and works closely with state and national plant biosecurity programs.
* Soil Biology and Diagnostics – develops strategies to better manage soil borne pathogens and understand the role of beneficial soil microflora in cropping, horticulture and pasture industries. This includes development of world-leading DNA-based testing services for quantification of fungal and nematode pathogens, weed seeds, beneficial soil microflora and plant roots in soil. The technology delivered includes the PreDicta B® root disease test for cereal and pulse crops and PreDicta Pt® for potatoes, and associated training programs in root disease management.
* Plant Health and Biosecurity – provides targeted research and development to reduce losses from plant disease across cereal, pulse, pasture, viticulture and horticulture industries. This includes delivery of plant health diagnostic services to growers, consultants, state and national plant biosecurity authorities. The group collaborates closely with breeding companies, pre-breeding programs and the private sector to develop disease resistant plant varieties.

**Business Support**

The Business Support unit manages research infrastructure services, farm networks, and contracts, with support from PIRSA Corporate Services for marketing and communications, procurement, asset management, financial management, human resources, facilities management and correspondence activities.

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1. [↑](#footnote-ref-2)