Department of Primary Industries and Regional Development

GOVERNMENT OF WESTERN AUSTRALIA

Grains, Seeds and Hay Industry Funding Scheme

Report to Grain Growers

Skeleton Weed Program 2020/21

Foreword

On behalf of my fellow committee members, I am pleased to present the 2020/21 Grains, Seeds and Hay Industry Funding Scheme (GSHIFS) annual report to Scheme participants, stakeholders involved in the Western Australian grain, seed and hay industries, and the Minister for Agriculture and Food.

Firstly, the COVID-19 pandemic has caused unprecedented world-wide disruption and has directly impacted our businesses and regional communities. Interruptions to supply chains, restrictions on the movement of people and access to casual labour, caused a re-think of many of our processes and plans. This has happened while the demand for our products increased with food security and distribution becoming major national issues. The adaptability and resilience of our members cannot be understated, with everyone working tirelessly to ensure our industry remains one of the best in the world.

On the program front, many of the key recommendations from the 2020 (delivered) Skeleton Weed Program Review have been implemented. As part of these recommendations, greater emphasis has been placed on research and development of new and alternative technologies.

The use of drones to undertake targeted surveillance activities, coupled with image analysis using artificial intelligence is just one area making significant advances. Along with ongoing research into improving chemical treatments, particularly in crop, the Skeleton Weed Program is looking to the future and how it can best support farmers to manage skeleton weed.

This year sees the end to my tenure on the Grains, Seeds and Hay Industry Management Committee. As a committee member and as Chair, I have seen many positive changes and I want to say a personal thank you to my fellow members and the support staff within the Department of Primary Industries and Regional Development.

Rohan Day
Chairman
Grains, Seeds and Hay Industry Funding Scheme Management Committee
30 June 2021

Program review

The Skeleton Weed Program is continuously looking to improve and as part of this process the Grains, Seeds and Hay Industry Management Committee (GSHIMC) commissioned a full review of the Program in 2019/20. This review incorporated a benefit cost analysis of previous, current and future program delivery costs.

All program milestones have been met and the program has been delivered under budget.

The review confirmed the value and effectiveness of the current program and provided several recommendations on how it can be better. All the reviews conclusions and recommendations have been accepted and are now being implemented.

In 2020/21 the key recommendations of the Review have been progressed:

Continuity and Funding

The GSHIMC has endorsed the continuation of the current Skeleton Weed Response into the medium term (3-5 Years).

Several options for the Skeleton Weed Program were considered. These options looked at the operational structure of the Program and costs associated with each option, measured against the levels of support to landholders and the outcomes likely to be delivered.

The Committee concluded that the current Operational Program and level of support should be maintained for the medium term (3-5 years), with consideration to the seasonal harvest and income from the levy.

In a nutshell, the Committee wants the program to continue, as is, with the current level of funding (no change to the levy), but also with the agility to adapt if required.

The Skeleton weed Program has always been framed under this context.

Research

Increased research funding, for research activities to look at further treatment options and improved skeleton weed searching techniques was a key finding of the Review and although research activity was significantly increased in 2020/21, the GSHIMC has endorsed the Project Management recommendation to create a separate Grains Industry Funding Scheme (IFS) Research Project for the 2021/22 Program and beyond.

The New IFS Research Project will be managed by DPIRD Senior Research Scientist John Moore and will focus on 3 main areas:

- Control
- Surveillance
- Innovation

An Advisory Committee, consisting of the Skeleton Weed Response Program Manager, the IFS Research Project Manager, an independent consultant (currently John Peirce, ex-Department Skeleton Weed Research Scientist, and invited GSHIMC Committee members and guests) was formed. This will oversee the direction of research activities. The first meeting was in Narembeen in June.

Communications

Awareness-raising about skeleton weed and its potential impact on production is necessary to address the diverse industry opinions regarding the value of the Skeleton Weed Program to the industry. A greater portion of the program budget should be allocated toward these types of activities.

Program findings at a glance

Achieved milestones

- Winter treatment of skeleton weed infestations, including supply and application of herbicide.
- Reviewed and provided skeleton weed information packages to landholders.
- Pre-search planning and notifications sent to the affected landholders.
- Surveillance for skeleton weed on high-risk non-infested properties undertaken.
- Monitoring of paddocks released from the infested list within C2 areas.
- Audits of infested properties conducted including follow up compliance.
- Records updated in the projects database for annual summer searching results.
- Annual debrief of operational activities held in April 2021.
- Operational plans and budgets for 2021/22 completed and approved by the GSHIMC.
- Funding applications for Local Action Groups (LAGs) were assessed and funding facilitated.
- The Annual Report to Grain Growers 2019/20 was completed and distributed.

Program expenditure

Total program expenditure was $5 347 000 for 2020/21, while income received from the operational activities was $101 000. Much of this increase in revenue can be attributed to a change in the billing timeframes for some operational work.

The actual net cost was $5 246 000 (as of 30 June 2021), which is $43 000 under the budgeted amount of $5 289 000, for the 2020/21 program (see Figure 1).

$3 815 000 was allocated directly to landholders in the form of search assistance, and funding for seven Local Action Groups (Table 1 and Figure 1). There was a further $1 532 000 directed to program support and operational activities such as program delivery, research, communications and extension, regulation and surveillance.

The 2020/21 expenditure maintains the significant increase in operational funding started in 2018/19. The $300 000 expenditure increase on 20219/20 can be directly attributed to the increasing landholder support provided, which was increased from $3 529 000 in 20219/20 to $3 815 000 in 2020/21.

Table 1 Program expenditure 2020/21

Operational expenditure	$
Program support	
Operations, coordination, audit and compliance	1 217 000
Education and awareness	15 000
Targeted surveillance searching (including the metro area)	170 000
Field research	130 000
Subtotal	***1 532 000***
Direct landholder support	
Local Action Group (including chemical purchase $85 000)	1 067 000
Provision for landholder searching subsidies	2 677 000
Winter spraying chemical supply (DPIRD)	71 000
Subtotal	***3 815 000***
Total expenditure	**$5 347 000**

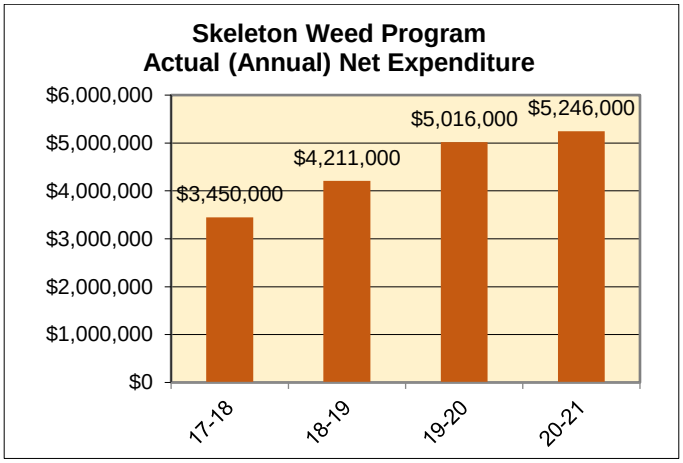


Figure 1 Net Program expenditure over last 4 years

Program findings at a glance

Recent improvements

Continuous improvement remains an important part of the Skeleton Weed Program's ongoing development and effectiveness.

Several significant changes made to the delivery of the program in 2019/20 were continued in 2020/21. These included:

- Ongoing reviewing and updated current control recommendations to limit seed set over summer and autumn. Additional chemical options were made available to landholders.
- Landholders will continue to be provided with clopyralid (e.g. Lontrel™) herbicide to treat heavily infested paddocks (greater than 10% infested, by area) in winter, following on the success of this support at the 2019/20 Annual Debrief of operational activities held in April 2021. See Table 5 for an explanation of paddock codes and Search Assistance eligibility.
- Changes made to the 2020/21 Operational Program were very successful and will continue for the 2021/22 Program at the GSHIMC.

Compliance

The main focus of the Skeleton Weed Program is to assist and work with landholders to eradicate skeleton weed. Consequently, there were few significant compliance issues.

In the past year, DPIRD and LAG staff have increased the level of auditing of landholders and contractor operations in line with the increased funding in 2020/21. Particular attention has been placed on the contractors work by the search assistance panel, and two new DPIRD Biosecurity Officers have been appointed to focus on Auditing and Quality Assurance of project operations.

Perth metropolitan area

Surveillance was conducted in the Perth area in early December 2020 and February 2021. Winter treatment of the 2019/20 infested sites was undertaken in July 2020.

Metropolitan area landholders and managers of metropolitan infested sites are required to conduct their own skeleton weed searching and treatment at their own cost. Alternatively, they may contract DPIRD to undertake the work on a fee-for-service basis on behalf of the GSHIMC (this arrangement remains the preferred option for most landholders).

Land managers choosing to undertake management themselves were required to report on their activities and were subject to audits in December and February.

New sites continue to be reported and found. Awareness is improving, particularly with local governments, with strong support from both the City of Cockburn and Wanneroo, and Main Roads WA. Although new sites are listed, many current sites have had significantly reduced plant numbers, and some sites were removed from the infested list.

Research

Current research includes herbicide trials, high precision mapping of plants, emergence patterns using time-lapse photography, image analysis using artificial intelligence, analysis of historic data, community consultation and the effects of microwaves on established plants.

The overall aim of the research program is to reduce the level of new infestations and/or increase the level of cleared infestations so that the new is less than the cleared and the overall infestation is decreasing or constant. Maintaining a constant infestation level is realistic and an achievable goal.

Control Research

Clopyralid is one of the most effective herbicides for controlling skeleton weed and can be used pre-emergent or over the top in cereals and canola and has low levels of long term residual allowing legume (clover) based pastures and grain legumes such as lupins to be grown in the following season.

World-wide trial data was collated and the dose response of clopyralid was analysed (Figure 2). This shows that the current doses are too low for eradication levels of control and some biotypes are more tolerant than others. Research has now been initiated to gain approval for higher use rates and to map the biotypes present in WA.

The Narembeen meeting of the Advisory Committee identified a number of key research areas which included better strategies for control in pastures and crop pasture rotations, better equipment, better communication of the best strategies and better targeting of herbicide to only treat skeleton weed plants rather than the whole paddock.

Program findings at a glance

Surveillance Research

Very accurate mapping of skeleton weed plants identifies if new plants are coming from old crowns or dormant rootstocks or seedlings. An example of an infestation that has been mapped prior to applying innovative as well as conventional treatments is at Figure 3.

Artificial intelligence and image analysis is being used to detect skeleton weed rosettes. Several thousand images have been collected at various heights above ground level to allow both aerial surveillances using drones and detecting skeleton weed using mobile phones mounted on agricultural machines. Early results are encouraging but much more work needs to be done.

In collaboration with Precise AI, drone images were taken at 3 different heights and speeds, and several times over infestations where skeleton weed plants had been mapped on the ground. This has fed into developing better algorithms for skeleton weed detection in summer.

High resolution mapping was conducted at 6 sites and a total of 10 flights.

Innovative Research

Research on using microwaves to kill skeleton weed is underway. The level of control achieved depend on the time of year and the amount of microwave radiation applied. A new antenna has just been commissioned which will be tested next season. Microwave treatments can be used in small sensitive areas where chemical treatments are inappropriate.

Mobile phones have been deployed on infested sites to provide time lapse videos of skeleton weed growth and reproduction.

NDVI imaging using quadcopters was used to determine the effects of skeleton weed treatments on crop growth. Current rates of herbicide are not affecting crops and higher rates are being trialled in order to provide higher levels of control of established plants.

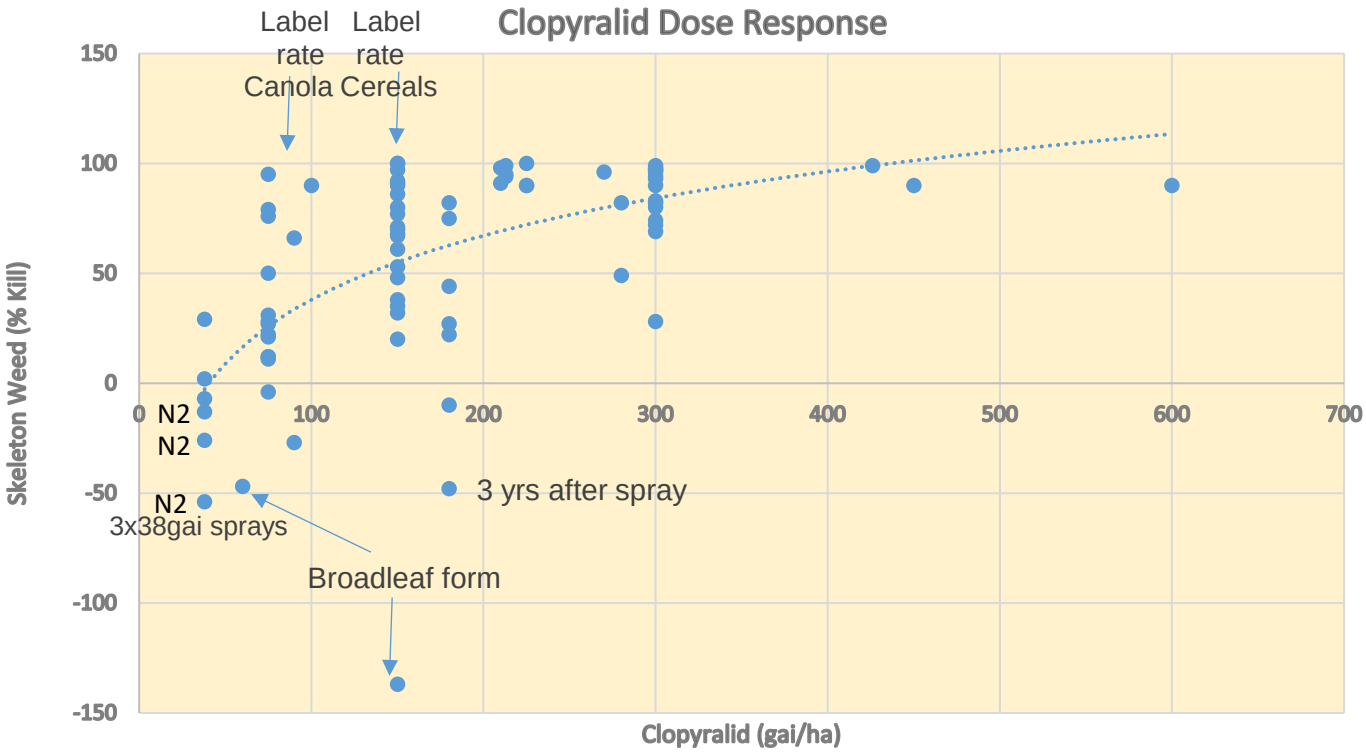


Figure 2 The response of skeleton weed to various doses of clopyralid (the horizontal axis is the amount of active ingredient applied per hectare).

Program findings at a glance

Skeleton Weed to Frizzle with Microwave Trials

The Department of Primary Industries and Regional Development (DPIRD) has expanded lab trials into the field using microwave technology in the battle to control Skeleton weed.

Image: Microwave applicator prototype trial on Skeleton weed in Munster (Source: DPIRD)

Previously trialled on significant pest weeds such as the hard seed banks of Gorse and Star of Bethlehem bulbs, sights have been set on Skeleton weed's extensive tap roots, with promising results. The microwaves penetrate the soil and affect the underground plant parts, depending on soil type and water content.

The project aims to test the validity of using microwaves to destroy Skeleton weed roots, as well as develop the prototype equipment to enable the eradication of weeds within one to two years rather than relying on seed dormancy to be exhausted.

The small scale Skeleton weed microwave trials are currently being undertaken in Munster and Bibra Lake and will include different timings to determine the most effective applications for plants at various growth stages.

For more information, contact DPIRD Senior Research Officer, John Moore on 0437 353 640.

Roadside Surveillance for Skeleton Weed Program

The Department of Primary Industries and Regional Development (DPIRD) will carry out regional roadside surveillance within Local Government grain growing areas from December to March.

Image: Skeleton weed flowers from early summer to mid-autumn.

Both a declared plant and agricultural pest for WA grain growers, skeleton weed is also found on land managed by Local and State Government.

Managers are encouraged to commence self-surveillance soon as skeleton weed will be running up from rosettes into long, spindly, leafless stemmed plants with yellow, daisy-like flowers which can produce 15,000 viable seeds.

Land managers of land known to be infested with skeleton weed are obligated under the *Biosecurity and Agriculture Management Act 2007* to report, mark and treat any plants present.

DPIRD will advise agencies if skeleton weed is found, and managers can choose to either self-manage the infestation, or engage DPIRD under a fee-for-service arrangement, which includes inspections, treatment and removal of plants.

For more information, please contact the DPIRD Skeleton Weed Operations Manager, Paul Manera, on 0429 203 327 or visit DPIRD's Skeleton Weed webpage.

Above and right: Articles sent to the WA Local Government Authority EnviroNews

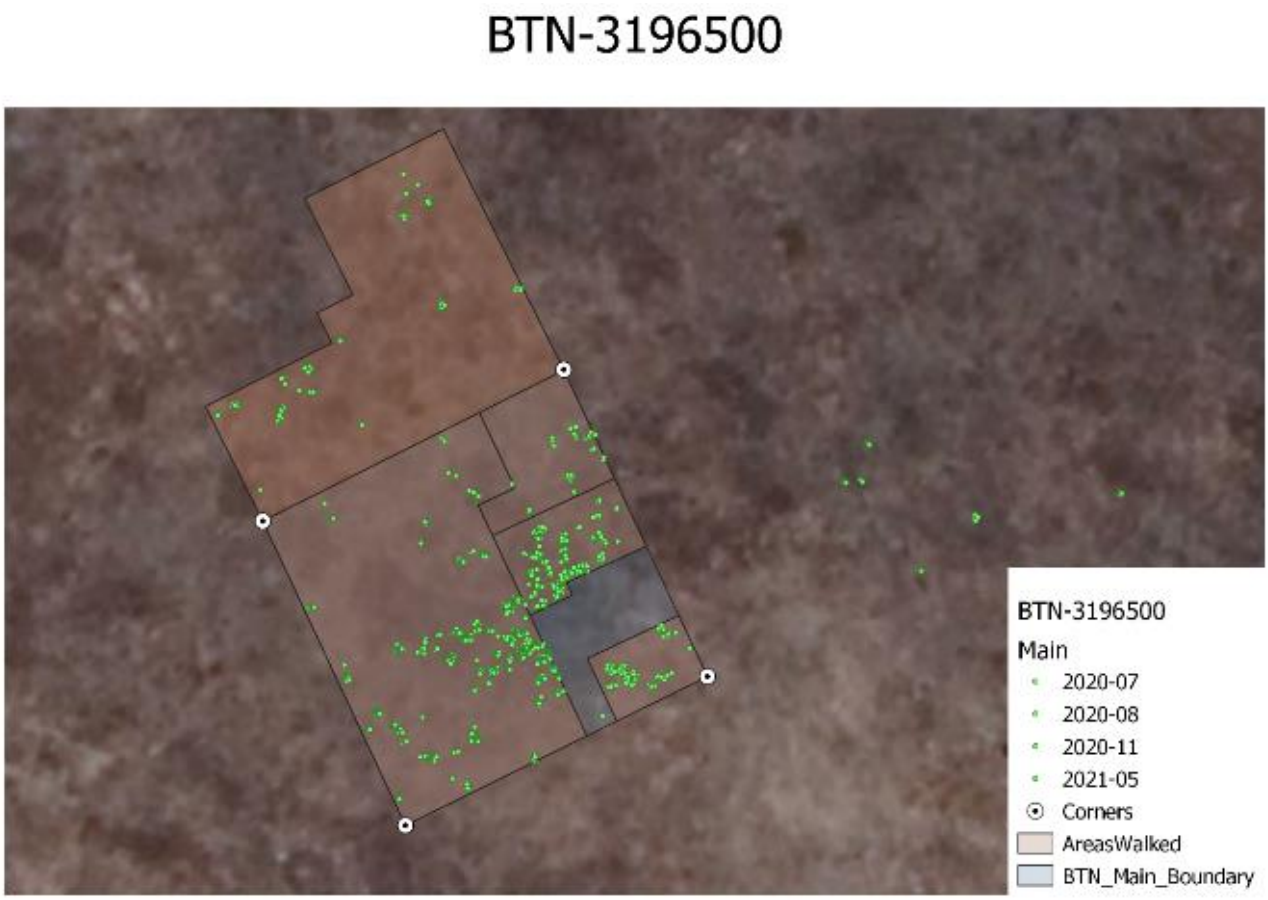


Figure 3 The location of skeleton weed rosettes at the research site.

Program findings at a glance

Local Action Groups

Seven Local Action Groups were funded by the program during 2020/21:

- Avon South
- Central Wheatbelt
- Lakes
- Lower Lockhart
- Mortlock
- Narembeen
- Yilgarn

$1 067 000 in funding was provided to enable LAGs to undertake the Skeleton Weed Operational Program in their designated areas.

The Avon South LAG has now been funded and has greatly improved the awareness and service delivery of the program within the shires of Brookton, Beverley, York and Quairading.

LAGs now cover most of the Central and Eastern Wheatbelt, undertaking and delivering the program's operational activities in these areas, which continues to be successful and effective.

All LAGs now work autonomously and undertake almost all tasks completed previously by DPIRD exclusively. DPIRD continues to undertake program compliance and coordination in shires covered by the LAGs.

Industry Funding Schemes

The Skeleton Weed Program continues to operate under the Biosecurity and Agriculture Management Industry Funding Scheme (Grains) Regulations 2010. Responsibility for approving funding and operations of the program reside with the GSHIMC initially appointed by the Minister in June 2010.

The GSHIMC met in April 2021 and approved the Skeleton Weed Program (control) and Three-horned bedstraw Program (eradication) on behalf of the WA grains industry. The Committee recommended the contribution rates be reduced to 25 cents per tonne for grain and 12.5 cents per tonne for hay, with these funds supporting both programs, with skeleton weed being allocated 90% of the collected funds.

The contribution has remained the same since 2018/19, reflecting the higher-than-average amounts collected the last few years, and the Committee's willingness to respond and decrease the burden on landholders with skeleton weed infestations when possible.

All contributions to the scheme are collected by purchasers of grain and hay and are paid into a GSHIFS Declared Pest Control and Compensation Account, managed by DPIRD in consultation with the Grains Industry Management Committee.

Extension and awareness

The program's extension effort was increased to coincide with the start of the summer search season (mid-November). A strategic communication and extension campaign was implemented incorporating regional radio announcements, press releases and social media, which included a story with ABC Rural. The campaign was a well-received key promotional opportunity, and which greatly increased the profile and recognition of skeleton weed among industry.

Field Days were cancelled in late 2020 but the Program displayed at Wagin Woolorama in March 2021. With COVID-19 restrictions lifted the program developed an improved display and continue to attend all field days in 2021/22.

Other key promotions included:

- Landholder Information Packs issued to infested property landholders (included updated stickers and Landholder Guide).
- Roadside signage – increased uptake by LAGs and project to install in their zones.
- WALGA EnviroNews articles on microwave trials and regional roadside surveillance appeared in issues December 2020 and January 2021.
- The Skeleton weed in Western Australia factsheet was available at all the agricultural field days and available on the website.
- Section 2 (Control Program) of The Skeleton weed in Western Australia: Management Guide, the program's key publication and best practice management guide, was reviewed and updated.
- The Communications Plan was reviewed, updated, and circulated.
- Printed a new report skeleton weed flyer 2021.
- Enquiries and discussions made to consider some skeleton weed podcasts on the Grain Growers Alliance website.
- An Agronomists factsheet and Stakeholder Landholder Packs considered for 2021/22.

Program findings at a glance

Infested properties

A total of 77 “new infested properties” were reported by landholders or found by DPIRD and/or LAGs undertaking targeted surveillance.

Following DPIRD and LAG audits of eligible “Code 4” paddocks, 21 properties were removed from the infested list. This gives a net gain (new minus released properties) of 56 properties – a significant decrease on the net gain of the previous year (were 81 new properties). This is very encouraging and clearly shows that the Skeleton Weed Program is achieving key program outcomes:

- Minimising the rate spread
- Eradicating – where possible.

Area searched

The total area searched in 2020/21 was approximately 461 800* hectares (Figure 4). Most paddocks searched were the Code 1 paddocks (296 000 hectares), which increased slightly from 2021/20 (Figure 5).

*Now includes all landholder, project staff and UAV surveillance.

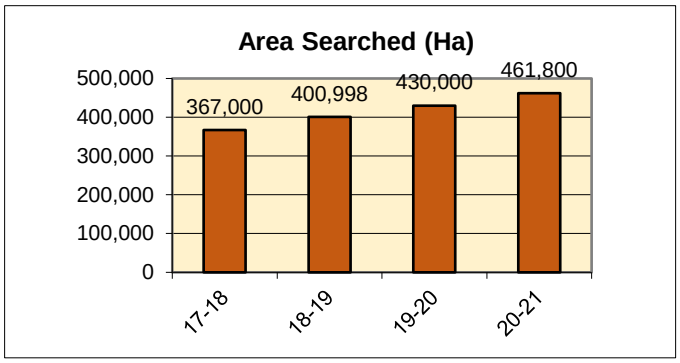


Figure 4 Total area searched by the program over the last four years

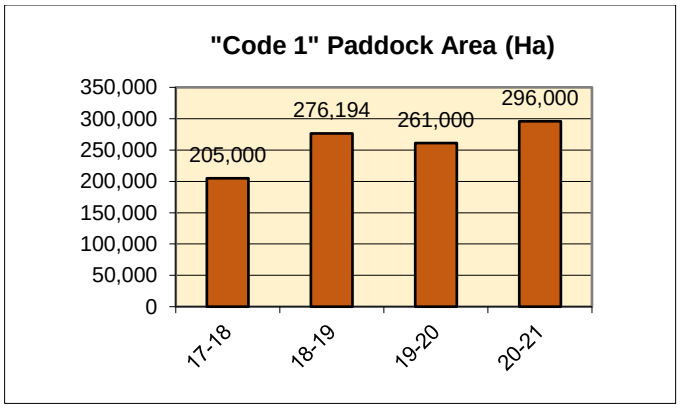


Figure 5 Area of Code 1 paddocks searched over the last four years

Due to program changes implemented (in 2019/20), which included increased search assistance eligibility, there were again, significant increases in Code 2 (84 000 hectares) and Code 3 paddocks (36 000 hectares) searched this season.

Surveillance searches

Project staff: The area of surveillance searching completed by DPIRD and LAGs was 22 000 hectares, with 11 new infested properties located through this activity in 2020/21.

UAV drone: A total of 13 800 hectares was searched under contract using drones. There have been a number of major improvements in the procedures and workflow with this activity. The image recognition software is progressing and improving with ongoing collection of skeleton weed images.

Quality Assurance audits undertaken on 3 500 hectares of the flown UAV drone area resulted in no penalties being incurred. 22 000 hectares will again be targeted for UAV surveillance in 2021/22.

For comparative search results for 2019/20 and 2020/21, refer to Table 4.

Infested area

An ‘infested square’ is the area which defines where skeleton weed plants are present within an infested “paddock”. This includes a 20 metre “buffer” around the actual plant sites.

This area is targeted for eradication treatment as part of the Winter Spray Program.

Where paddocks are greater than 10% infested, they are determined as “heavily infested paddocks” and the whole paddock is treated under a management protocol to reduce the infested area to a level where it can be treated for eradication.

In 2020/21 the area listed for eradication treatment under the Winter Spraying Program was 3 650 hectares, while the area of heavily infested paddocks requiring “whole paddock treatment” with Clopyralid, remained steady with only a slight. increase to 11 000 hectares (Figures 6 & 7).

The sharp increase in “whole paddock treatment” (Figure 7) between 2018-19 and 2019-20 programs was slowed with the changes introduced in 2019/20, where landholders are provided with chemical to treat heavily infested areas.

Program findings at a glance

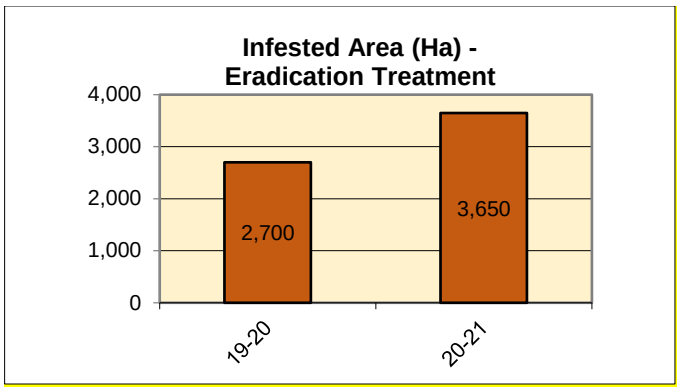


Figure 6 Actual area infested with skeleton weed at the end of the search season (Eradication Treatment)

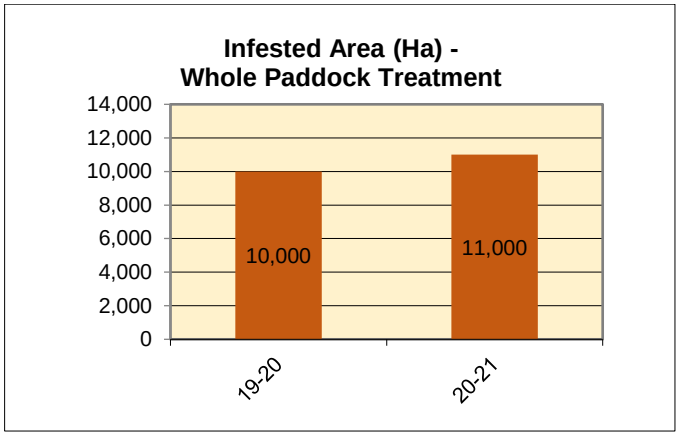


Figure 7 Actual area infested with skeleton weed at the end of the search season (Whole Paddock Treatment)

Search Assistance

A total of 324 000 hectares was claimed for search assistance in 2020/21 (Table 2).

The total cost of the Search Assistance Program for 2021/22 was $2 692 500, up from $2 490 000 last season (Table 3). This was a significant increase in the cost of the search assistance program in 2021/22 and attributed to the additional 20 000 (+) hectares searched (mostly by contract).

Contractors searched a total of 203 000 hectares of eligible Code 1, Code 3 and New Find paddocks, and were paid $1 965 500 under the Search Assistance Scheme.

Landholder searching slightly decreased – from 123 500 hectares in 2019/20 to 121 000 hectares in 2020/21. Landholders were paid search assistance totalling $727 000.

Table 2 Paddocks and hectares claimed for Search Assistance in 2020/21 search season

Search Assistance results	No. of paddocks	Hectares
Clear search	850	92 500
Plants found	1 880	231 500
Total	**2 730**	**324 000**

Distribution maps

A map of the agricultural areas showing skeleton weed:

- **operational zones** (Figure 8) and
- **distribution of all infested sites** (Figure 9)

can be found at the end of this report.

Program findings at a glance

Table 3 Paddocks claimed for Search Assistance 2020/21 – Expenditure breakdown

Search Assistance 2020/21	Amount paid	Area hectares	No. Paddocks	Budget / Paddocks %
Total Budget Amounts 2020/21	2 692 500	324 000	2 730	
% of Total Budget Spent				115
Total paid: Existing Code 1	1 947 000	230 000	1 877	
Total paid: Existing Code 3	232 000	30 000	376	
Total paid: Existing Code 2 (re-infested)	154 500	21 000	177	
Total paid: Existing Code 1, 2 & 3	2 333 500	281 000	2 350	87
Total paid: New Code 1	359 000	43 000	380	13
Total Amounts	2 692 500	324 000	2 730	
Total paid Landholders	727 000	121 000	1 060	37
Total paid Contractors	1 965 500	203 000	1 670	63

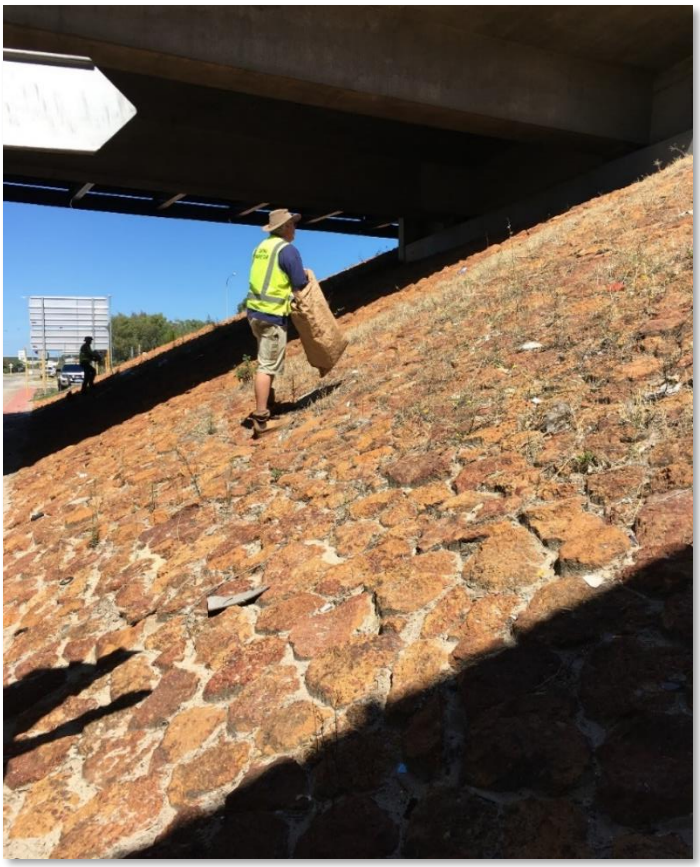
Table 4 State-wide Skeleton Weed Program – Searching results (comparison of 2019/20 and 2020/21)

Searching results	2019/20	2020/21
Total properties searched	898	940
Total paddocks searched	3 720	4 000
Total area searched	371 000	416 000
Estimated Code 1 search area (hectares)	251 000	296 000
Estimated Code 2 search area (hectares)	83 000	84 000
Estimated Code 3 search area (hectares) (excl. area audited and removed)	37 000	36 000
New properties	111	77
New paddocks (existing properties and new properties)	757	860
Total new area (hectares)	51 000	52 000
Re-infested paddocks	311	406
Re-infested area of Code 2 and 3 paddocks	30 000	43 000
Clear search paddocks	1 322	1 460
Clear search area (hectares)	96 000	138 000
Infested properties		
Estimated landholder surveillance	NR	10 000
Project staff (DPIRD and LAGs)		
Number of properties	98	79
Number of paddocks	224	222
Area searched (hectares)	22 700	22 060
New finds – properties (DPIRD only)	16	11
UAV surveillance		
Number of properties	40	39
Number of paddocks	92	92
Area searched (hectares)	20 645	13 800
New finds - properties	2	2
Properties audited		
Total number of properties audited	422	754
Number of properties removed	30	21
Number of paddocks removed	173	237
Area removed from infested list (hectares)	17 850	25 900

Program findings at a glance

Table 5 Skeleton weed paddock codes and Search Assistance eligibility

Current status	Paddock code description	Eligible	Search assistance applies
New	Newly infested paddock Plants found this search season 2020/21	Yes	Search assistance is available for landholder or contract searching.
Code 1	Currently infested paddock Plants found last search season 2020/21	Yes	Search assistance is available for landholder or contract searching.
Code 2	First clear search No plants found last search season 2020/21	No	Code 2 paddocks progress to Code 3 after a clear search.
	Re-infested Code 2 paddock (reverts to Code 1) Plants found this search season 2020/21	Yes	Search assistance is available for landholder or contract searching.
Code 3	Second consecutive clear search No plants found last two search seasons 2019/20 & 2020/21	Yes	Search assistance is available for landholder or contract searching. Code 3 paddocks progress to Code 4 after a clear search.
	Re-infested Code 3 paddock (reverts to Code 1) Plants found this search season 2020/21	Yes	Search assistance is available for landholder or contract searching.
Code 4	Third consecutive clear search Paddock can be released from 'Infested list'	N/A	Release is pending audit of search by DPIRD or LAG.



Program planned improvements

Proposed changes for 2021/22

- All the program changes implemented in 2019/20 were very successful and have been retained for 2021/22.
- UAV Surveillance will be continued with 22 000 hectares planned and budgeted for in 2021/22.
- Following on the recommendations of the review, a new Industry Funding Scheme Research Project has been created and has received a budget allocation of $400 000 for 2021/22 and will focus on the key areas of:
  - Chemical and eradication treatment development
  - Improving surveillance and searching techniques
  - Alternatives to chemical treatment (microwaves)

  As well, the IFS Research Group will be collaborating with CSIRO (and others) to look at biological control options into the future.
- The 20m “buffer” around infested sites (this is areas treated with Picloram for eradication) has been reduced to 10m, which will mean the minimum size of “infested squares” has been reduced from 0.16 hectares (40m x 40m) to 0.04 hectares (20m x 20m). This will help reduce the area treated for eradication as well as the area that landholders are required to not crop.
- Landholders will be able to seed through infested areas (squares) **in certain circumstances**:
  - This will only apply to paddocks where there are multiple squares and working around these is impractical.
  - Landholders will need to consult with DPIRD/LAG Officers before working through squares (DPIRD/LAGs will be required to approve working through squares).
  - Landholders need to be fully aware that the Eradication Protocols for spraying will apply to these areas and infested areas that have been seeded through may suffer crop damage from the recommended chemical applications (Picloram at 7L per hectare).
  - Where there is only one or a small number of squares - it is still preferable for landholders to leave these un-seeded.
- Where possible, project staff look to limit new paddocks search areas to a **100 hectare maximum**.

Skeleton weed regions and zones

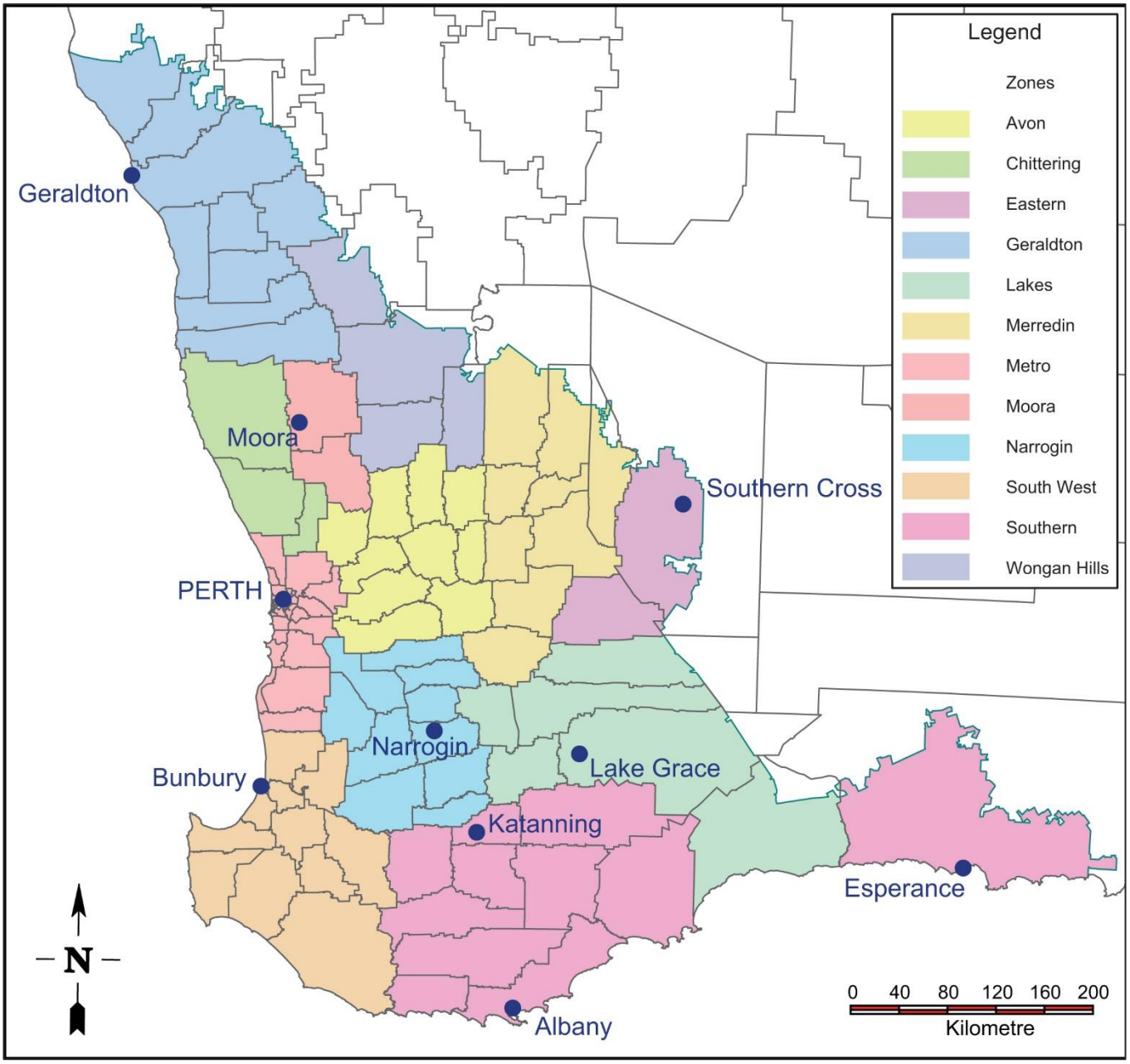


Figure 8 Map of skeleton weed zones in Western Australia as at 30 June 2021.

Skeleton weed regions and zones

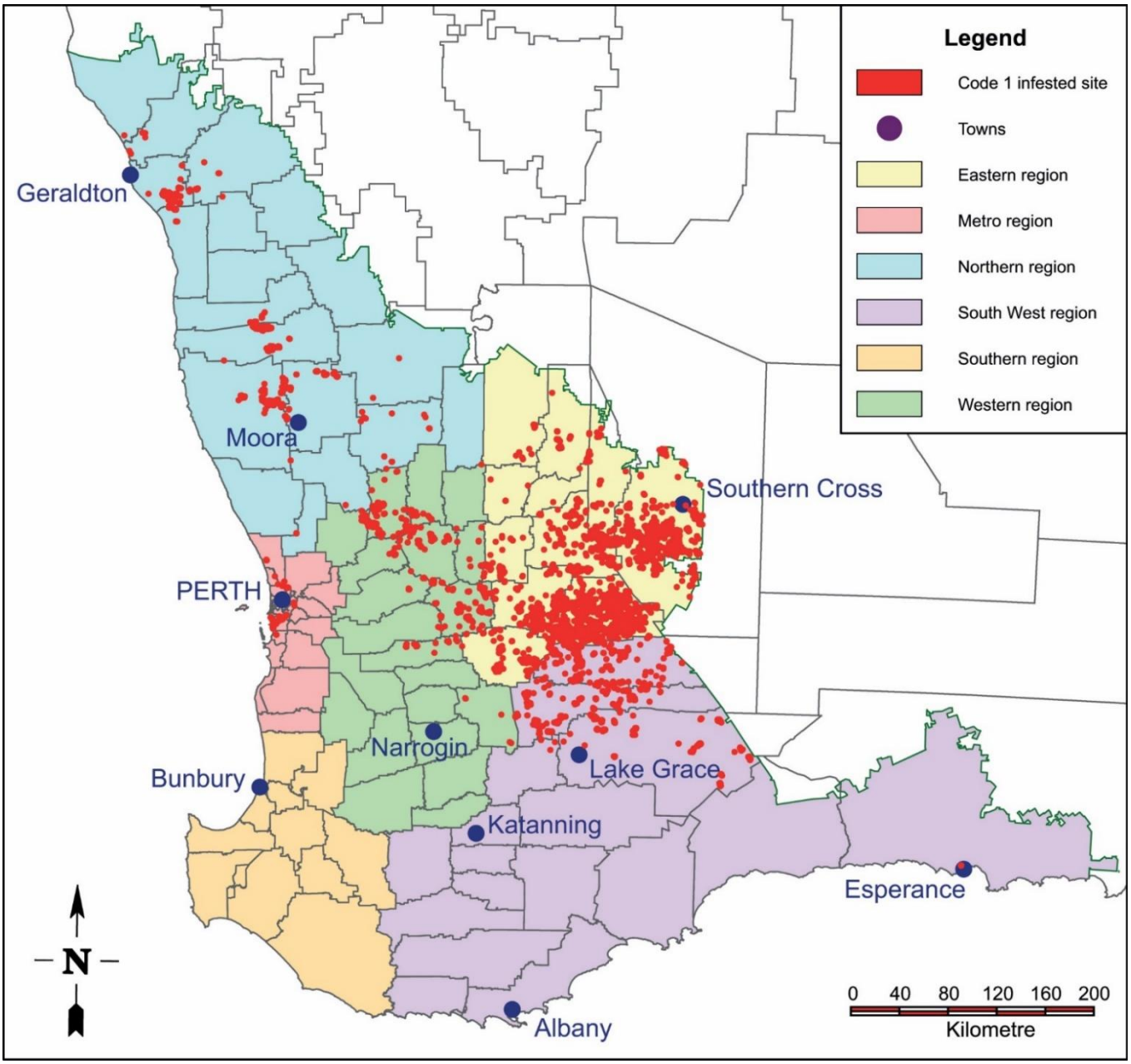


Figure 9 Map of skeleton weed regions and Code 1 infestations in Western Australia as at 30 June 2021.