Chondrilla juncea (Skeleton weed): a harmful invader that poses a threat to Agriculture

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Environmental Affairs
Agriculture, Forestry and Fisheries
Water Affairs

EXPANDED PUBLIC WORKS PROGRAMME
CONTRIBUTING TO A NATION AT WORK

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South African National Biodiversity Institute

SANBI-ISP

- Established in 2008

- Funded by (NRM)
  Department of Environmental Affairs

WORKING FOR WATER

- To protect ecosystem services from the negative impacts of invasive species by detecting and managing new invasions before they become problematic.

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National Environmental Management: Biodiversity Act (10/2004): Alien and Invasive Species Regulations, 2014

- **Listed species category 1a under the NEMBA 2014**: Eradication targets

- **Unlisted species**: These are new records of plant introductions or naturalised species, but not listed on the legislation

- **Species on the surveillance list:** Plant taxa that are considered a threat but are not regulated because of lack of information or a conflict of interest.

Introduction :*Chondrilla juncea*

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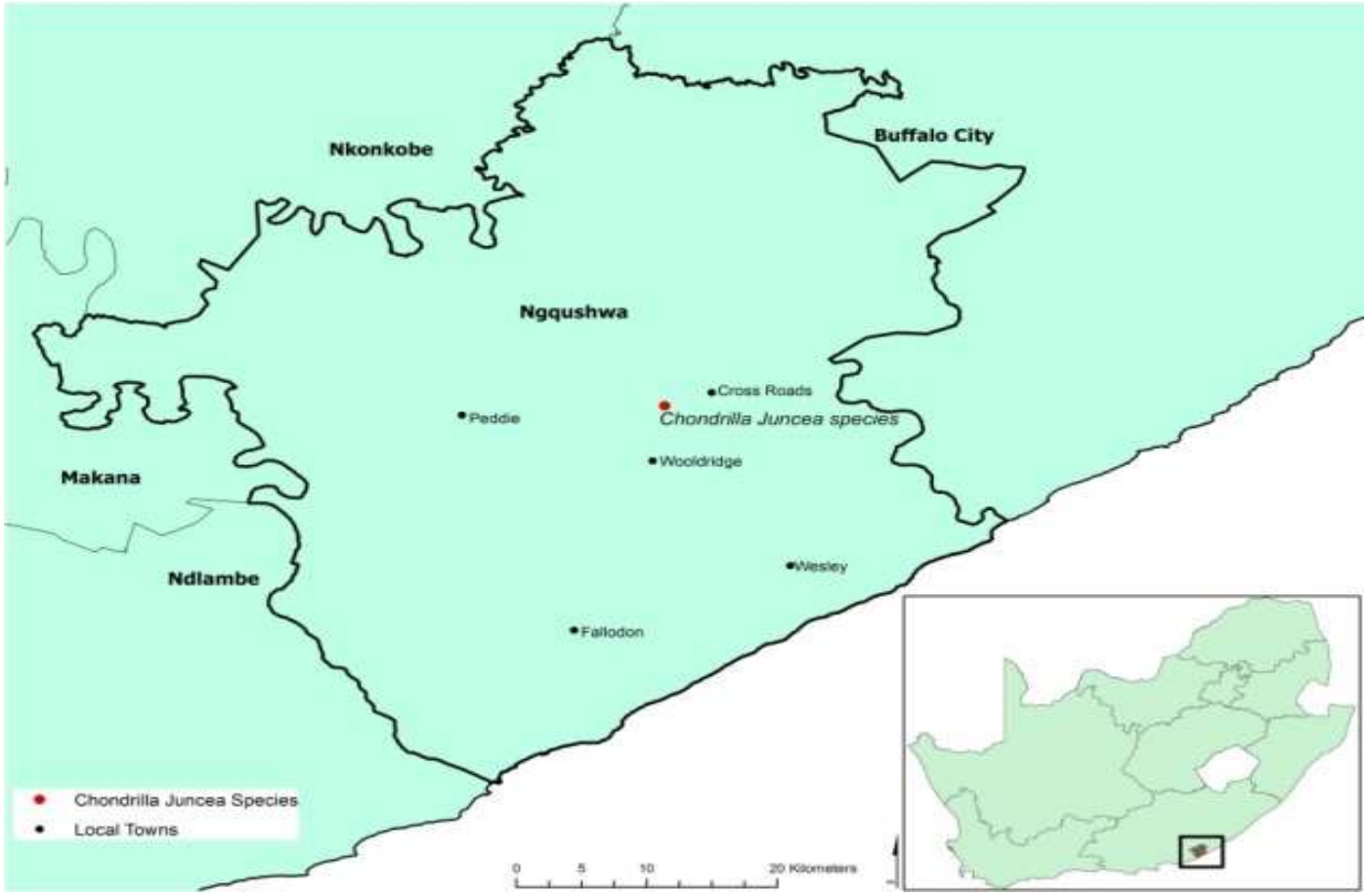
History of introduction

- *Chondrilla juncea* is native to Western Europe, North Africa and Central Asia.
- Introduced to several countries like Australia, British Columbia, California, and Western United States, where it is now considered as highly invasive.
- Invades disturbed habitats , range lands, cultivated maize field and wheat fields

Impacts

- Displaces native species
- Reduces forage for livestock and wildlife.
- Threatens crop productivity (small grains), competes with crops for water and nutrients
- In other countries where it invades a crop yield loss are recorded.

History of introduction



Listed as category 1a National Environmental Management: Biodiversity Act (10/2004): Alien and Invasive Species Regulations, 2014 . Species needing compulsory control, and thus an eradication plan needs to be developed and implemented

ISP work

- Project initiated in 2012
- Field surveys conducted
- Communication with affected communities

Chondrilla juncea localities

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Qeto village

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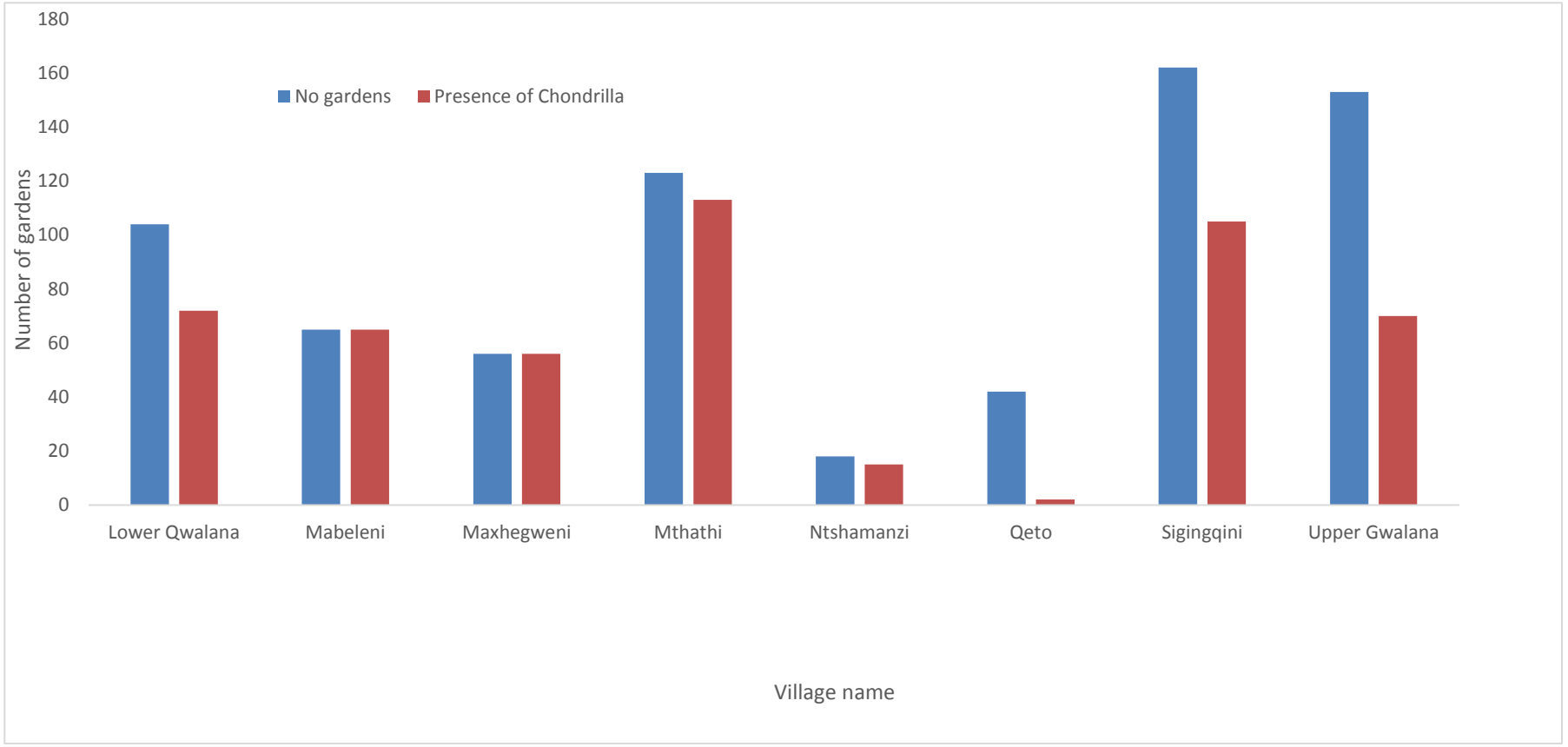
Extent of invasion

- 9 villages were surveyed
- 18 community members (two people per) trained on data collection
- Walk the village, GPS each home and record the presence of *Chondrilla juncea* in the garden or maize field.
- Record the size of the infested area
- Record estimated percentage cover of *Chondrilla Juncea*

Extent of invasion



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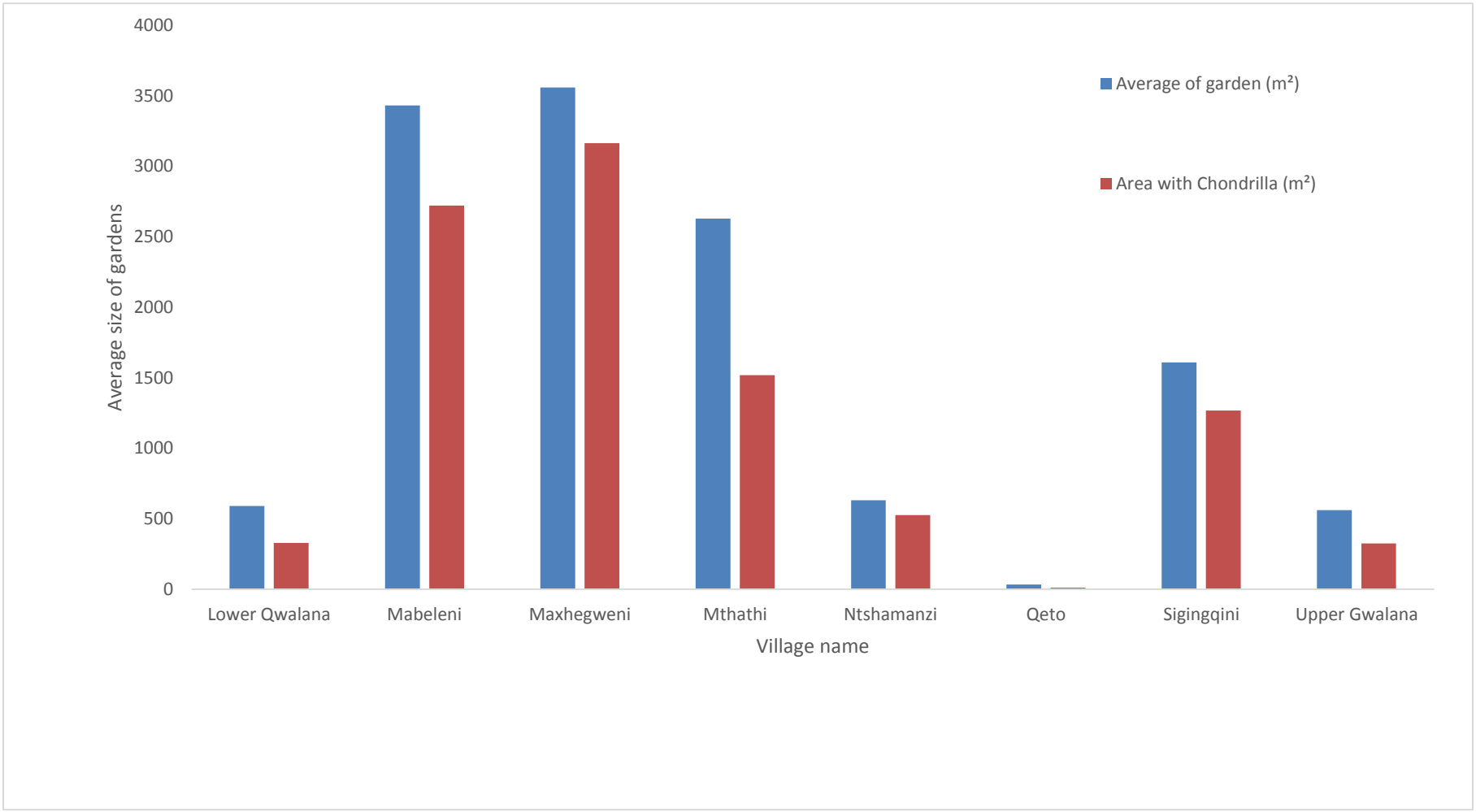

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Managing the problem

Chemical Control

- No registered herbicide
- Chemical control is most effective on young plants (rosette stage) and on relatively small infestations, and when combined with other control methods.
- Herbicidal control requires repeated applications over a period of time and this may be highly expensive.
- Small scale subsistence farmers

Qeto village

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Mechanical Control

- Hand pulling, digging or hoeing.
- Labour intensive as new plants will continue to emerge from injured regenerative roots.
- Successful mechanical control requires the removal of plant growth 3-6 times per year for up to 10 years.

Biological Control

- No agents in South Africa

Other methods

- Improved agricultural methods (crop rotation)

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The plan

- Survey other villages in Peddie
- Eradication feasibility
- Investigates control options
- Develop an advisory committee
- International collaboration

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How can you help us ?

Contact: Eastern Cape team

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Thank you