



Australian Pest Genome Partnership

Australian Invasive and Pest Species Genome Partnership

29th September 2021

PRESENTED BY

Rahul Rane (CSIRO)

Rahul.Rane@csiro.au



Australian Research Data Commons



THE UNIVERSITY OF MELBOURNE



Australian National University



Australia's need: To protect our environment, productivity and health from pest species

“A key challenge for Australia is managing the devastating impacts that pests, weeds and diseases inflict on our economy, environment, health and way of life.”

Future control and management strategies need a genome

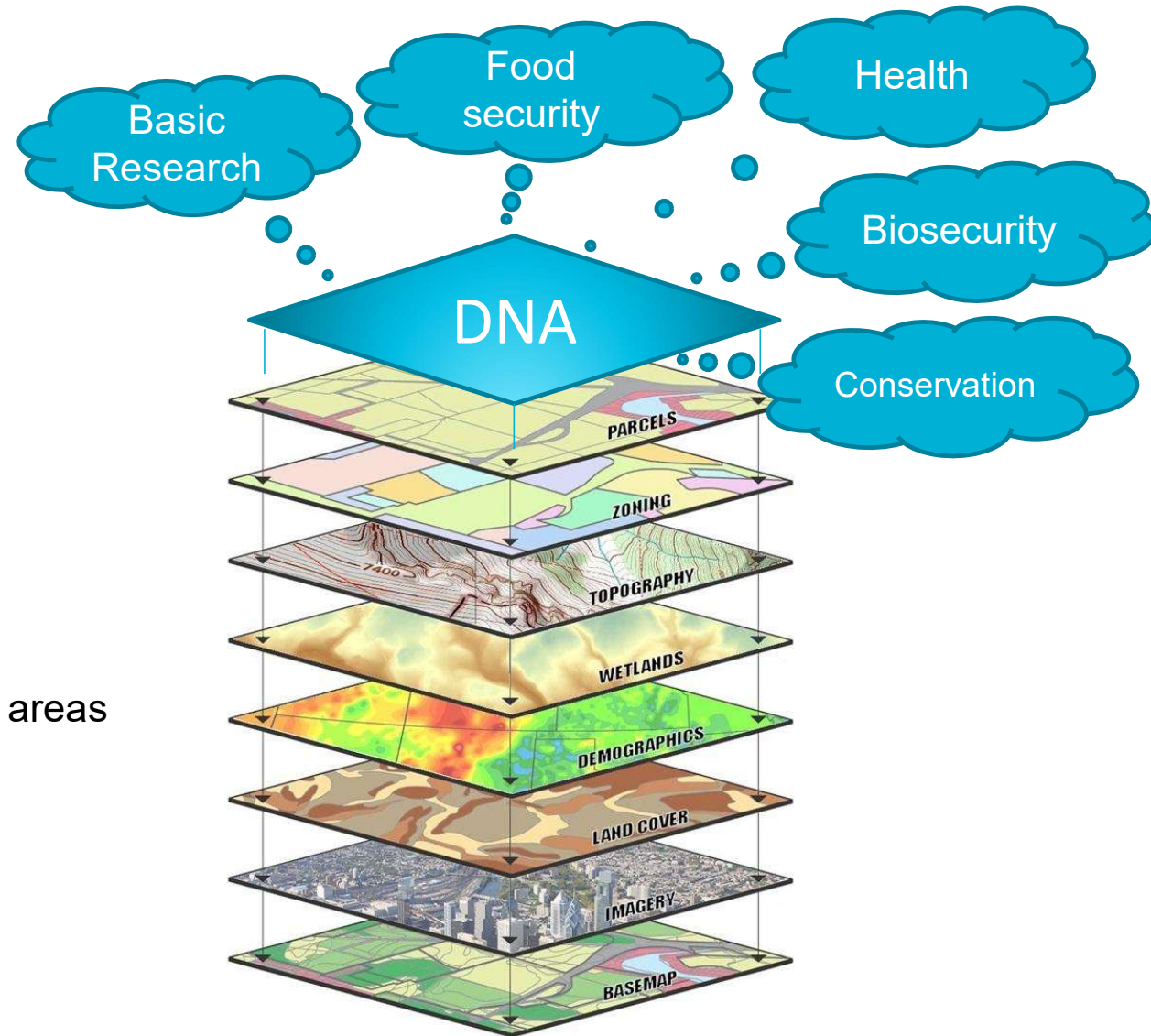
- Population movements
- Negative genotypes – eg: pesticide resistance
- Genetic control approaches (gene drive, sterile release)
- RNAi
- Etc!

BUT significant barriers to entry for researchers and funders



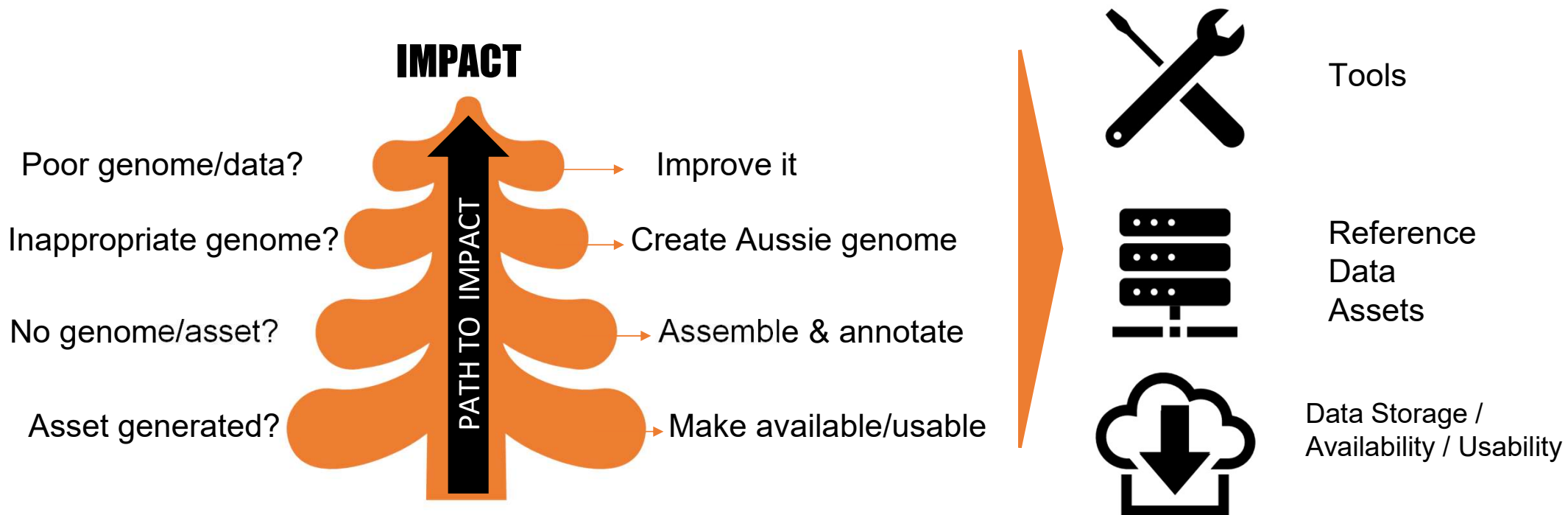
Digital Transformation of Biological Data

- Catalyse research and applications
- Digital Transformation
- Reduce barrier to entry for 'omics
- Open use/access to reference data assets
- Stimulate applied usage of this data
- Stimulate genomics research across many areas
- Decision support tools





What was funded: Locally focused, High Quality, Genome Reference/Data Assets

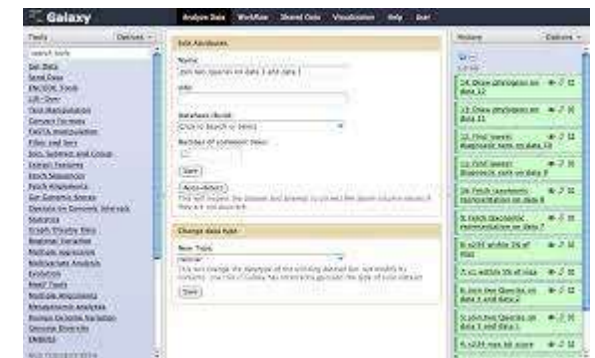
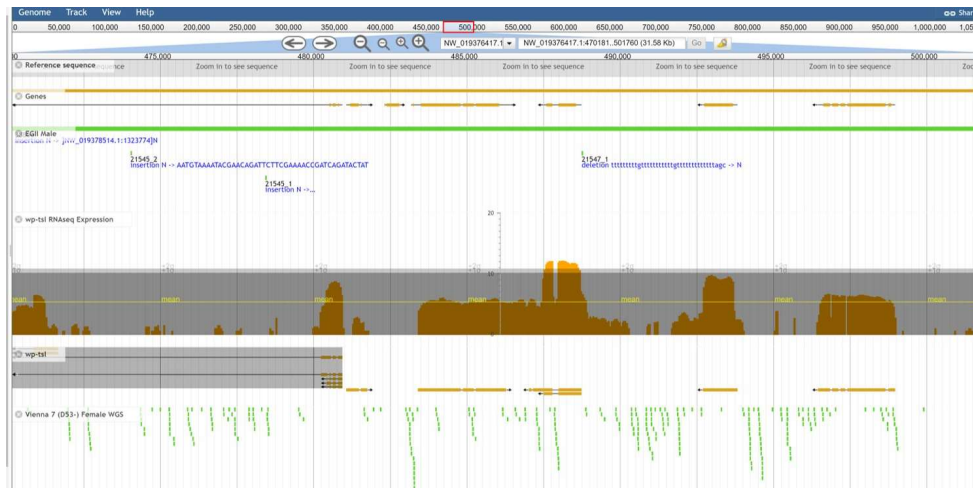




Open source collaborative tools



JBrowse 2



Australia's need: **Locally focused** – **High quality** – **Genome reference data assets**



Stakeholders
 conservation organisations
 educational institutions
 federal agencies
management authorities
 state agencies
 local governments
 RDCs

+

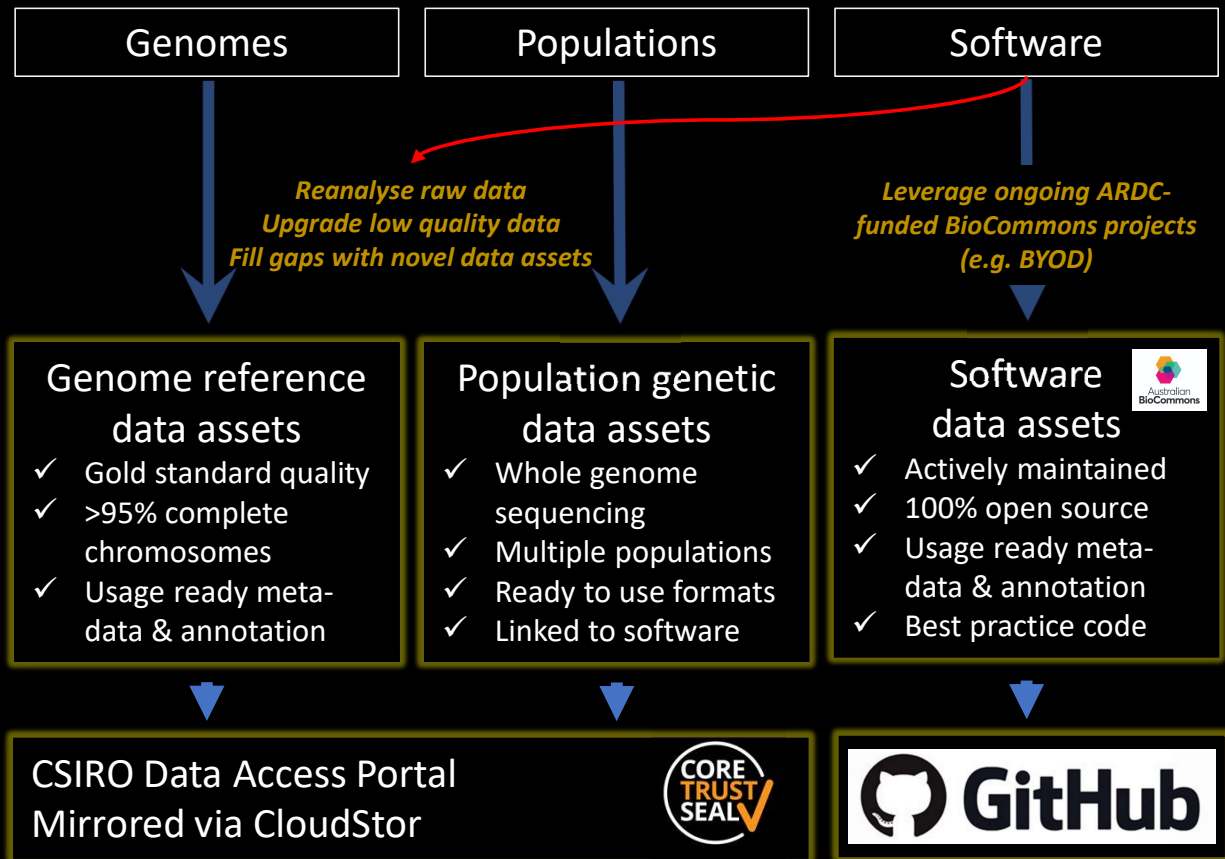
Research community

+

Partners

Identify priority pest species for Australia

- ✓ Collate, simplify, upgrade and coordinate existing data assets
- ✓ Identify current gaps with stakeholders



Thank you