Discussing today ….

- Educational tools

- Collecting Hunter Region data

- Using Hunter Region data
  - 2009-2015
 - New for 2016

HBOC's Objectives

- Encourage birdwatching as a leisure activity

- Encourage the study and conservation of native birds and their habitat

Educational tools

- Annual Bird Report
- Species accounts and site accounts in *The Whistler*
- Bird of the Evening (club meetings)
- Bird of the Month (Facebook)
- Local chat group "Hunterbirding"
- Community talks
- Community Open Days
- Website (under-utilised)

Collecting data

- Until 2009, HBOC did not possess its own electronic database for species in our region
  - Lacking a champion, resources, ...
- But, we had:

ANNUAL BIRD REPORT

HUNTER REGION

NEW SOUTH WALES

Number 16 (2008)

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  - An annual Bird Report series since 1993 (based around incidental reporting + tables for some regular surveys)
  - Waterbird databases for many long-term survey areas
  - Access to some individual's databases of their regularly surveyed sites
  - A strong commitment to the BLA Atlas project. The basis for much of the Club's field work.
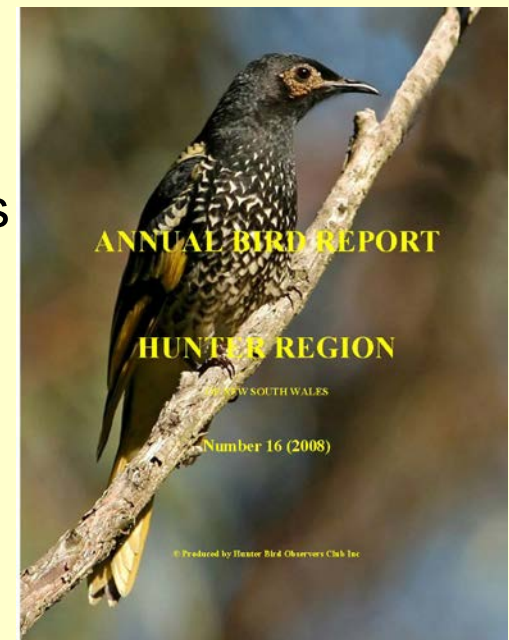
Collecting data

- Since 2009: data exchange with BirdLife Australia
  - Records from HBOC activities are submitted to Birdata
  - Many individuals submit to Birdata (+ we actively encourage others)
  - We receive annually a copy of <u>all</u> Hunter Region Atlas records
  - Formalised in the Affiliation agreement

- Encouraging participation
  - HBOC projects are based on Atlas survey methods (exposes participants to Atlas concept)
  - Data in annual Bird Reports and *The Whistler* provide tangible examples
  - Atlas sessions at some club meetings (maps, discussions, etc)

Hunter Region Atlas surveys (all types)
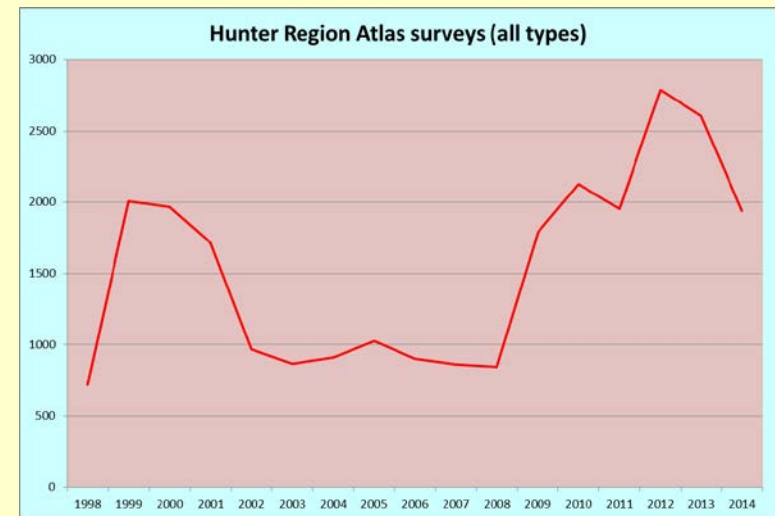
Using data (2009 onwards)

- Excel-based macro developed – it is used for statistical analyses using 10-minute block Atlas data
- Macro is not considered suitable for general membership use
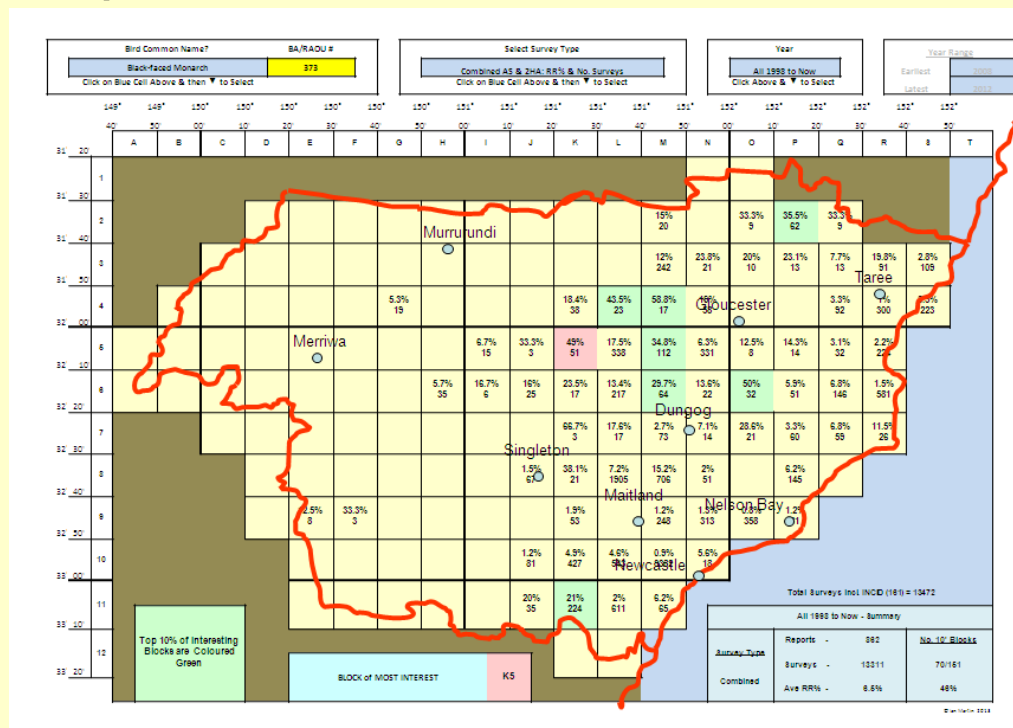
Using data (2009 onwards)

- Atlas statistics are published in Hunter Region annual bird reports

- Informs readers about:
  - How common / how widespread each species is
  - Which 10-minute cell has the highest Recording Rate
  - How the annual RR compares with the long-term RR
  - *If they are sufficiently skilful at interpretations!*

Magpie-lark *Grallina cyanoleuca*
ID No: 415   HBOC Category: 1   Breeding: Yes
Status: Common resident. Widely and regularly recorded in counts of up to 20 birds.
From BLA Atlas: Recorded in 84% of cells, at RR = 37.1%; cell of most interest: L9 (89.2%).

There were no exceptions to the general description of status. *Breeding:* Birds had nests with young at Gloucester 14 Jan and Merewether 10 Nov (DBP, MRO), were feeding fledged young at Grahamstown Dam 25 Oct (SLP) and also bred at Bobs Farm Dec (TBW). *Atlas:* 578 records from 50 cells, RR 31.6%

Using data (2014 onwards)

- QGIS (freeware) based system for point data analysis
- Probably not suitable for general membership use

Using data (2016 onwards)

- Species distribution maps, based upon Atlas data
- Timelines for migratory species, based upon Atlas data
- Timelines for seabirds, based on data from pelagic surveys
- Generates readily-digestible information for HBOC members and the general public

Using data (2016 onwards)

Species distribution maps

- Hunter Region sub-divided into 60 bio-geographic zones
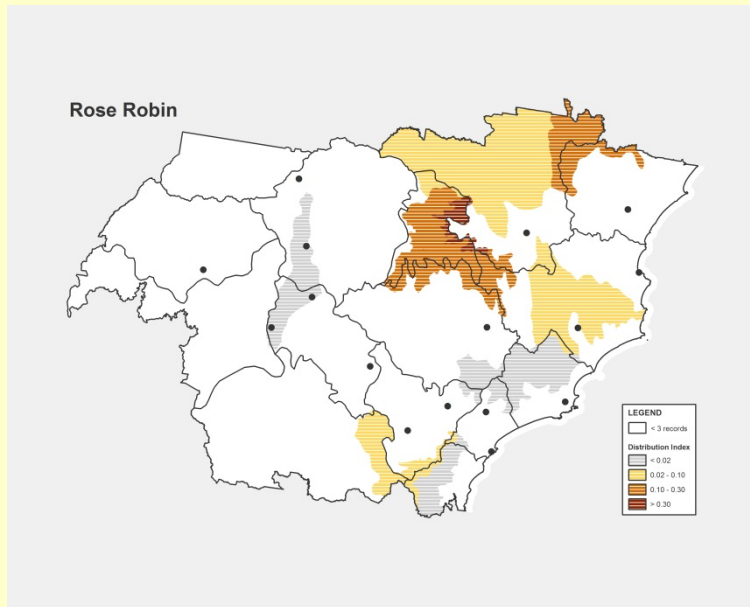
- Distribution Index (normalised # of records) for each species calculated for each of the 60 polygons – plotted as ranges
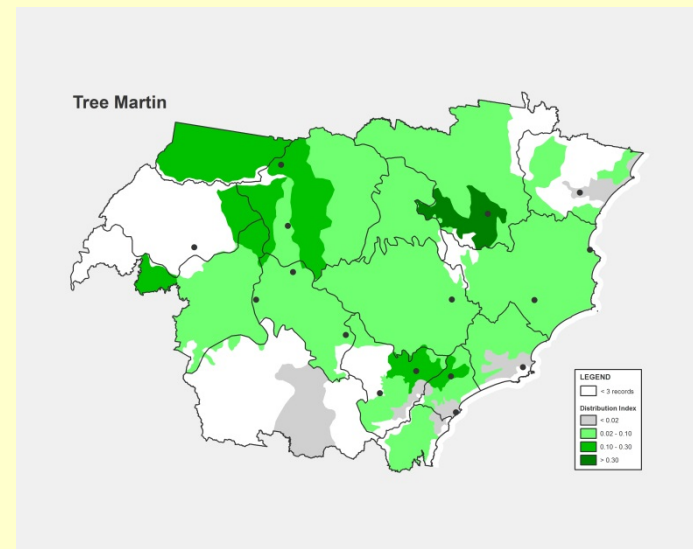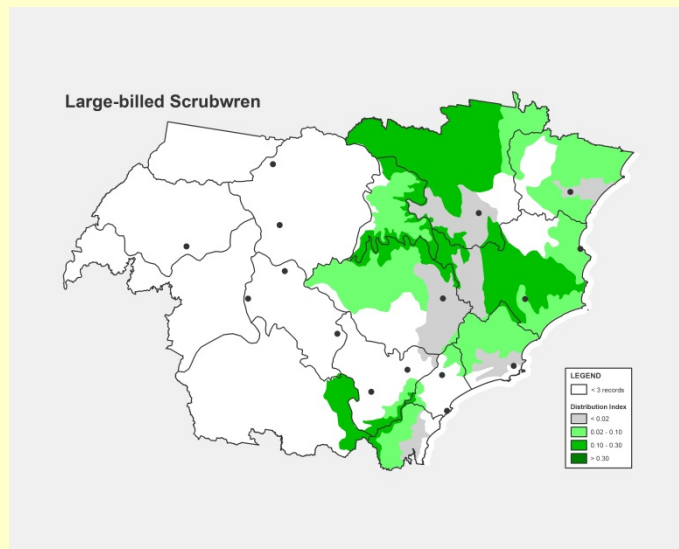
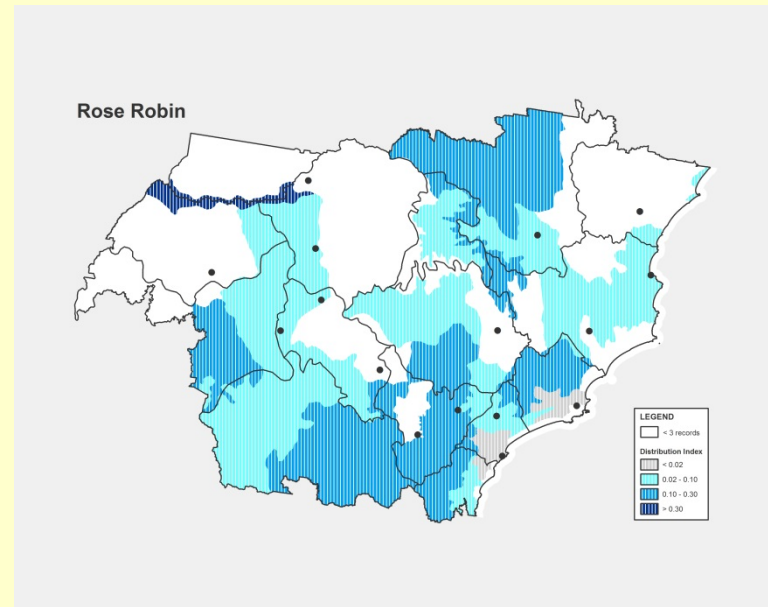# Using data (2016 onwards)

Species distribution maps

- Maps can also depict time-based changes, eg:
  - Seasonal variations
  - Altitudinal migrations
  - Medium to long term distribution changes

Summer distribution

Winter distribution

Using data (2016 onwards)

Migrating species timelines

- Automated generation of Atlas daily densities of records

- Group these by standard deviations from the mean

- Results in timelines showing when each species is normally present, sometimes present, etc

Australian Painted Snipe	J	F	M	A	M	J	J	A	S	O	N	D

Swift Parrot	J	F	M	A	M	J	J	A	S	O	N	D

Rose Robin >400m	J	F	M	A	M	J	J	A	S	O	N	D

Rose Robin <400m	J	F	M	A	M	J	J	A	S	O	N	D

Using data (2016 onwards)

Seabird species timelines

- Uses data from pelagic trips to our offshore waters
- Less data available → a less statistical approach is used
- Timelines are based upon the average counts per month for each species

Flesh-footed Shearwater	J	F	M	A	M	J	J	A	S	O	N	D

Indian Yellow-nosed Albatross	J	F	M	A	M	J	J	A	S	O	N	D

Wilson's Storm-petrel	J	F	M	A	M	J	J	A	S	O	N	D

What next?

- Some tweaking of the bio-geographic zone boundaries

- Species distribution maps and timeline graphs to be included into the next bird report

- Maps & timeline graphs also will be made available for talks/papers/etc about individual species

- Somehow, get it all onto HBOC's website

- The holy grail is an app for Hunter Region birds

Conclusions 1

- The BLA Atlas is a rich source of data about Hunter Region birdlife

  – Approx. ½ million records of individual species

- The data can be used for detailed analyses about individual species …

- … or, for broader generalisations about distributions, timelines of presence/absence, etc

- The role in conservation matters is also very important

- There is no substitute for local analysis!

  – Leaving it to "someone else" risks:

    - A dead-end
    - Gross over-simplifications of no local value

Conclusions 2

- As the database grows, increasingly sophisticated interrogations become possible

- Putting results "out there" has led to increased participation rates …

- … and we expect further growth in the participation rate as new applications of the data are demonstrated.

Acknowledgements

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