Instructions for Using the reefApp

Figure 1: Parrot fish

Introduction: The Great Barrier Reef

- World's largest coral reef system
- Over 2,900 individual reefs and 900 islands
- Stretches 2,300 km (1400 miles)
- Located off Queensland in Australia
- World Heritage Site
- Much of it protected by Great Barrier Reef Marine Park

Fish Dataset

- Great Barrier Reef Fish Biological Data
- Collected by Ian Walkden Brown
- FRDC-funded project: Reproduction and Recruitment of Great Barrier Reef Food Fish Stocks (FRDC 90/18)
- Over 9671 observations of 15 variables
- In csv file, so not easy to explore

Figure 2: Moorish idol

App Layout

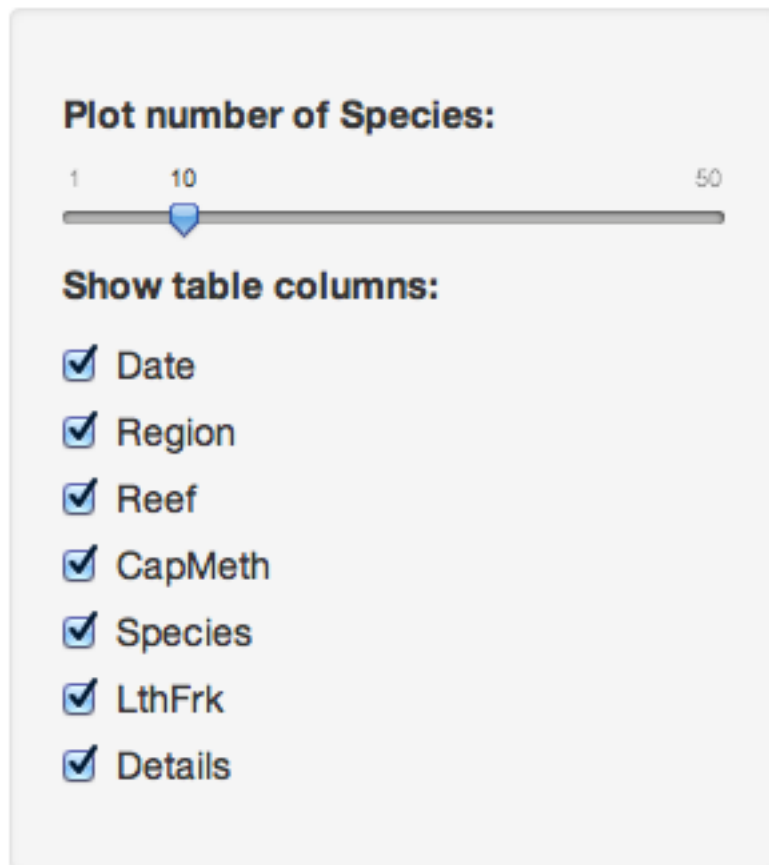### Left sidebar

Interactive controls

- **Slider:** To control plot
- **Checkboxes:** To control table

Main panel

Detailed (tabbed) display

- **Plot Tab:** Interactive plot of main species measured
- **Table Tab:** Interactive table of raw data
- **Dataset Tab:** Dataset details and acknowledgements

Sidebar (Figure 3)

Figure 3: Sidebar

- **Slider:** Controls number of fish species displayed in Plot.
- **Checkboxes:** Controls columns displayed in Table.

Main Panel

Plot Tab (Figure 4)

Bar chart of the frequency with which fish were found

- **X-Axis:** Species names
- **Y-Axis:** Count of fish in dataset
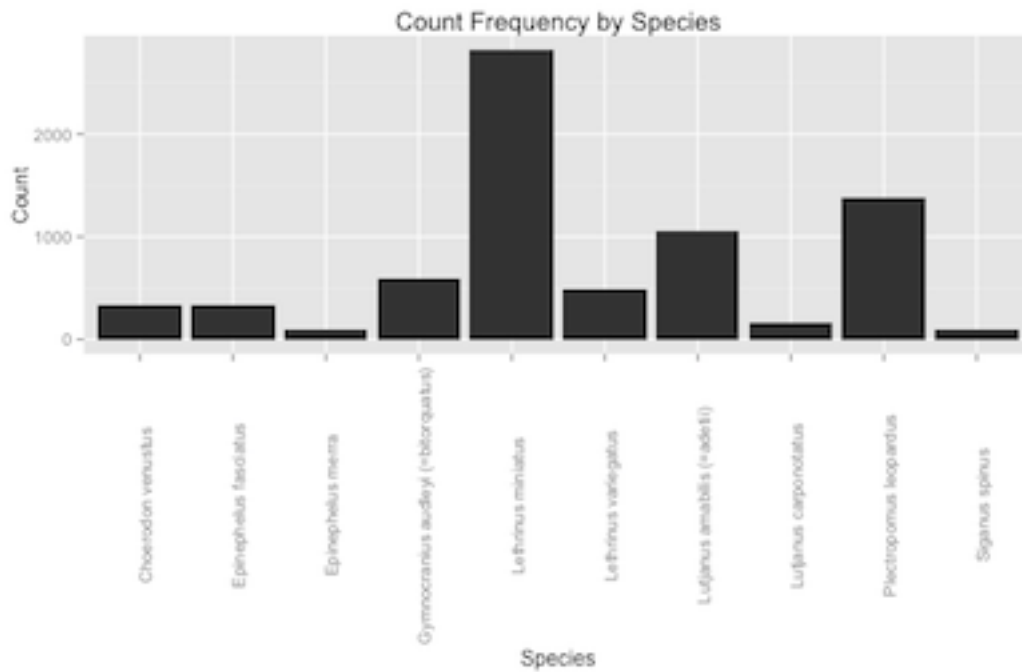- **Slider:** Adjusts the number of species shown

Figure 4: Plot

Table Tab (Figure 5)

Displays six columns of data from the dataset in an interactive table

- **Column names:** See Dataset tab for details
- **Checkboxes:** Unchecking the checkbox removes the corresponding column
- **Details:** Hyperlinks to massive database of fish

Dataset Tab (Figure 6)

Displays details of the dataset

- Describes columns
- Only the 7 columns with the most complete data are shown in the table

Figure 5: Table

This data comes from Australia's Great Barrier Reef. The data was downloaded from http://era.deedi.qld.gov.au/1776/ and is used under the Creative Commons license.

DETAILS

Biological measurements on fish sampled during the course of FRDC funded project Growth, Reproduction and Recruitment of Great Barrier Reef Food Fish Stocks (FRDC 90/18). The table comprises the following fields:

1. Date (d-m-y)
2. Region (descriptor of part of Queensland coast or Great Barrier Reef system)
3. Reef (name or number)
4. Capture method
5. Species name (Genus species)
6. LthFrk (fork length, cm) This is length of a fish measured from the tip of the snout to the end of the middle caudal fin rays and is used in fishes in which it is difficult to tell where the vertebral column ends.
7. Link to www.fishbase.org for further details about this genus (if available)

Data obtained by the Department Employment, Economic Development and Innovation (formerly Primary Industries and Fisheries) between 1988 and 1993, primarily in the southern Great Barrier Reef (Capricorn-Bunker and Swain Groups), with fish traps and handlining.

Figure 6: Dataset

Summary

- Great Barrier Reef is one of the natural wonders of the world
- App displays results of a reef fish-counting survey
- Data displayed interactively in graph and table
- Thanks to Ian Walkden Brown for a really interesting dataset

Enjoy!