



New Zealand  
**GARDEN  
BIRD  
SURVEY**



Technical report

**WEST COAST REGION**

**2017** |

**State of NZ Garden Birds**

**Te Āhua o ngā Manu o te Kāri i Aotearoa**



**Manaaki  
Whenua**  
Landcare  
Research

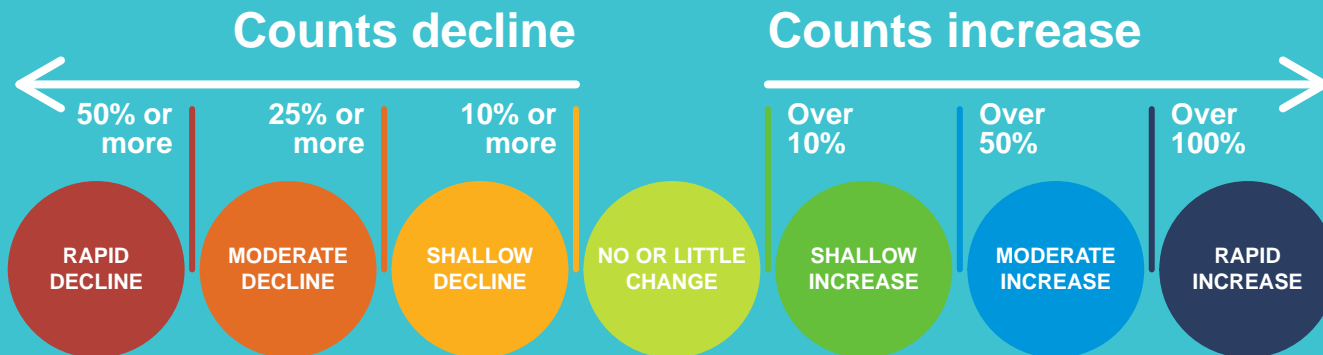


We have estimated how bird counts have changed since 2007 in different regions and towns across New Zealand for 14 common garden visitors – five native and nine introduced birds.

Thanks to all our volunteer bird counters, 31,679 garden surveys have been completed nationwide since 2007. We use specialised statistical tools to account for variation in sampling effort between regions, towns and suburbs over time. We also account for variation in bird counts depending on whether the surveyed gardens were in a rural or urban setting and if birds were fed or not. We also correct for the actual number of gardens in each area.

We then classify these changes according to their direction and size (see adjacent diagram) to help us identify changes of potential concern or interest.

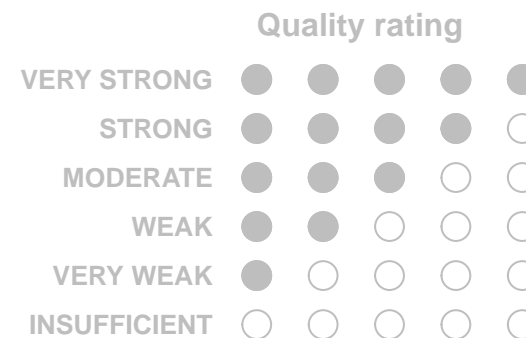
# Drawing attention to changes in counts of potential concern or interest



Change class for each species, based on the 1001 bootstrap replicates, indicated by double circle. The degree of shading indicates where these replicates lie.



Quality rating category for each species shows the strength of evidence for the change class based on the 1001 replicates.



# How have bird counts changed?

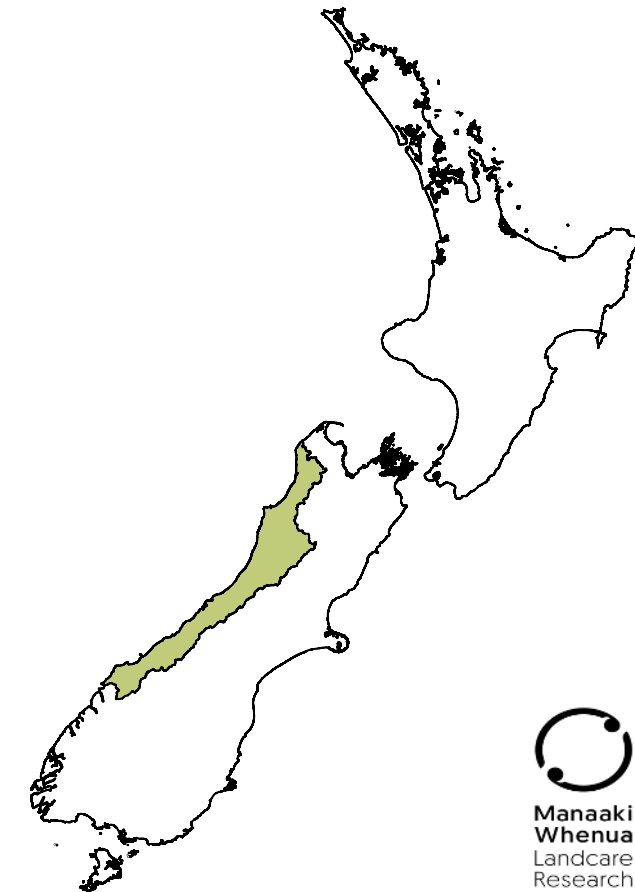
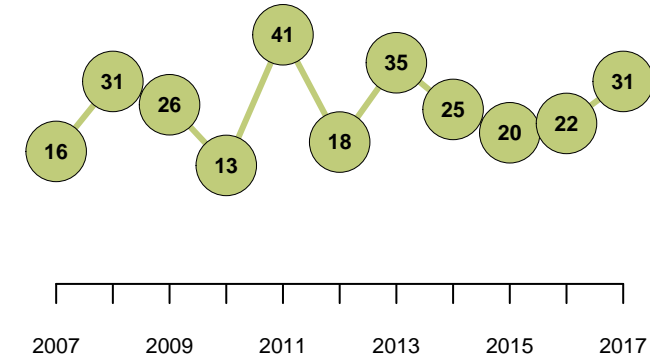
## WEST COAST REGION | 2007-2017



New Zealand  
**GARDEN BIRD SURVEY**

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| GREENFINCH         | 49%    | 31 to 62%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          |            |
| TUI                | 38%    | 27 to 47%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | KŌKŌ       |
| HOUSE SPARROW      | 13%    | 9 to 19%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          | TIU        |
| FANTAIL            | 10%    | 7 to 13%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ○○○○○          | PĪWAIWAKA  |
| NEW ZEALAND PIGEON | 8%     | -3 to 19%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●○○○○          | KERERŪ     |
| BELLBIRD           | -1%    | -6 to 2%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | KORIMAKO   |
| BLACKBIRD          | -8%    | -11 to -6%              | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●○○          | MANU PANGO |
| CHAFFINCH          | -14%   | -18 to -10%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | PAHIRINI   |
| STARLING           | -26%   | -31 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          | TĀRINGI    |
| SONG THRUSH        | -27%   | -31 to -24%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          |            |
| GOLDFINCH          | -27%   | -32 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          |            |
| DUNNOCK            | -28%   | -38 to -20%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          |            |
| SILVEREYE          | -52%   | -55 to -49%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          | TAUHOU     |

## NUMBER OF GARDEN SURVEYS



# How have bird counts changed?

## WEST COAST REGION | 2007-2017

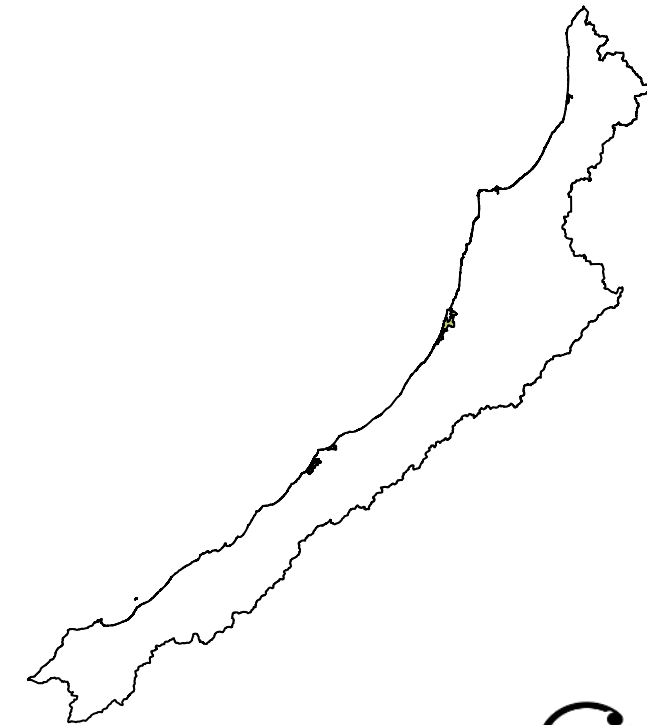
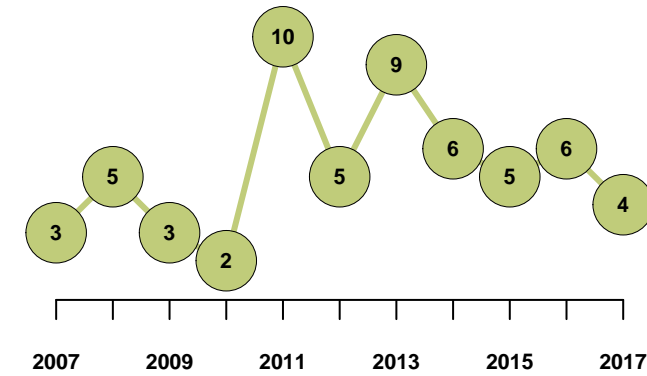


New Zealand  
**GARDEN BIRD SURVEY**

### Greymouth

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| TUI                | 35%    | 19 to 46%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | KŌKŌ       |
| GREENFINCH         | 26%    | 8 to 39%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          |            |
| FANTAIL            | 14%    | 9 to 19%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          | PĪWAIWAKA  |
| NEW ZEALAND PIGEON | 9%     | -12 to 26%              | ○             | ○                | ○               | ●                   | ●                | ○                 | ○              | ○●○●○          | KERERŪ     |
| HOUSE SPARROW      | 9%     | 5 to 15%                | ○             | ○                | ○               | ●                   | ●                | ○                 | ○              | ●○●○●          | TIU        |
| BELLBIRD           | -1%    | -7 to 3%                | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ●●●●●          | KORIMAKO   |
| BLACKBIRD          | -9%    | -11 to -6%              | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ●●○●○          | MANU PANGO |
| CHAFFINCH          | -13%   | -17 to -8%              | ○             | ○                | ●               | ○                   | ○                | ○                 | ○              | ●●●○           | PAHIRINI   |
| STARLING           | -22%   | -28 to -18%             | ○             | ○                | ●               | ○                   | ○                | ○                 | ○              | ●●●●●          | TĀRINGI    |
| GOLDFINCH          | -29%   | -35 to -24%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          |            |
| SONG THRUSH        | -30%   | -34 to -25%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| DUNNOCK            | -32%   | -42 to -22%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          |            |
| SILVEREYE          | -55%   | -58 to -52%             | ●             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TAUHOU     |

NUMBER OF GARDEN SURVEYS



# How have bird counts changed?

## WEST COAST REGION | 2007-2017

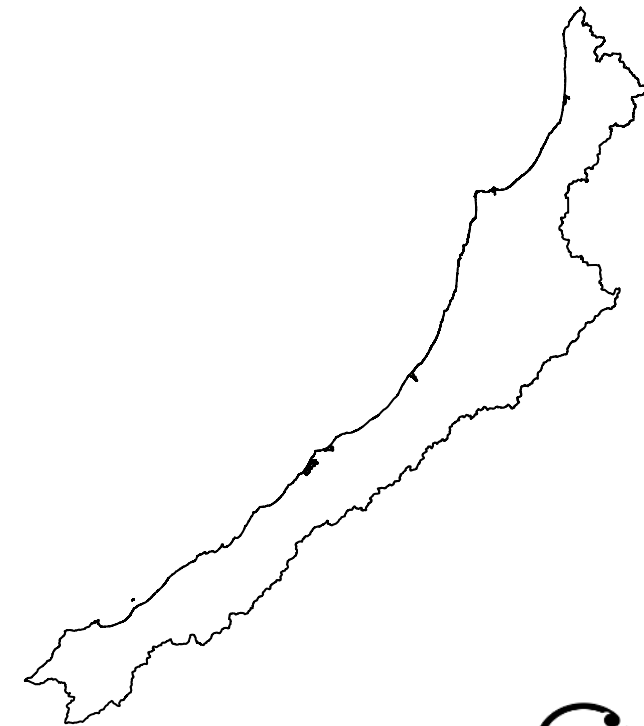
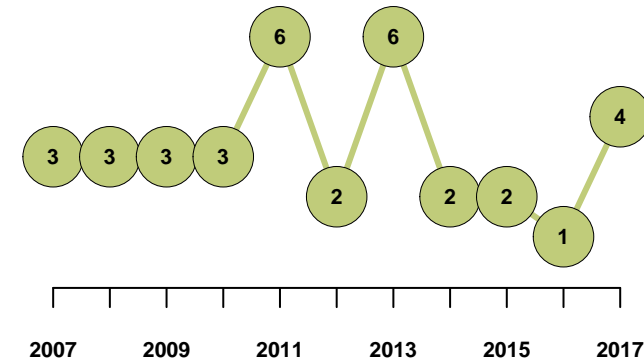
### Hokitika



New Zealand  
**GARDEN BIRD SURVEY**

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|
| GREENFINCH         | 44%    | 25 to 58%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          |
| HOUSE SPARROW      | 32%    | 28 to 39%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          |
| TUI                | 14%    | 0 to 26%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●○○○          |
| NEW ZEALAND PIGEON | 13%    | -15 to 33%              | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●○○○○          |
| FANTAIL            | 11%    | 6 to 16%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●○○○          |
| BELLBIRD           | -1%    | -6 to 2%                | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |
| BLACKBIRD          | -9%    | -12 to -6%              | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          |
| CHAFFINCH          | -19%   | -24 to -14%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |
| DUNNOCK            | -23%   | -34 to -13%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |
| STARLING           | -26%   | -32 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          |
| GOLDFINCH          | -30%   | -36 to -25%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |
| SONG THRUSH        | -31%   | -36 to -26%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |
| SILVEREYE          | -55%   | -58 to -52%             | ●             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |

NUMBER OF GARDEN SURVEYS



# How have bird counts changed?



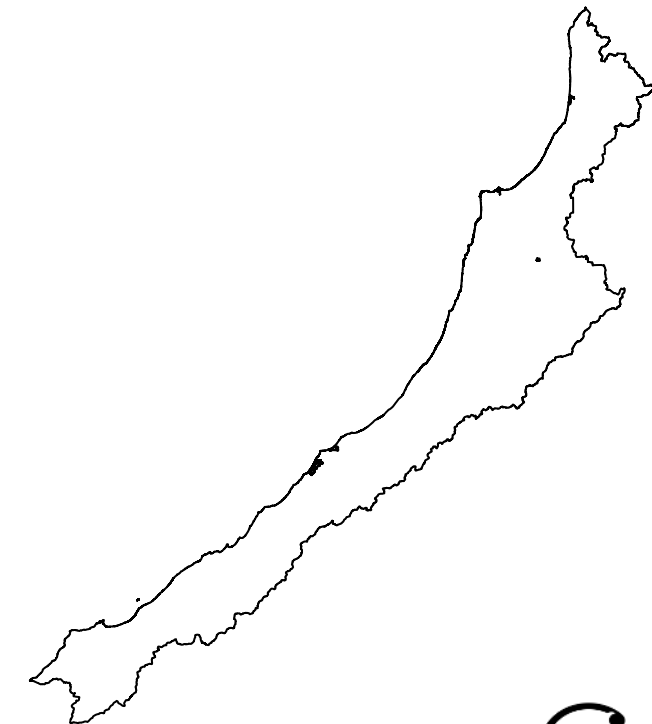
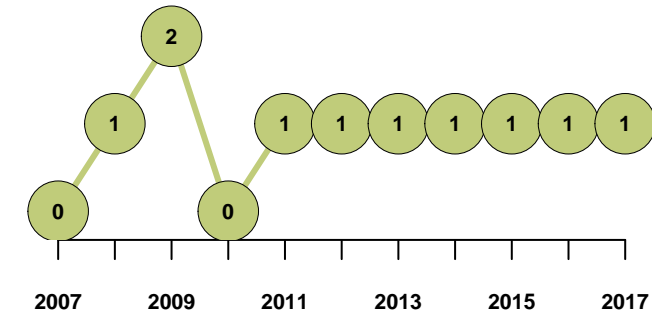
New Zealand  
**GARDEN BIRD SURVEY**

## WEST COAST REGION | 2007-2017

### Reefton

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| GREENFINCH         | 39%    | 18 to 54%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          |            |
| TUI                | 26%    | 8 to 39%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          | KŌKŌ       |
| FANTAIL            | 11%    | 7 to 15%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●○○○          | PĪWAIWAKA  |
| HOUSE SPARROW      | 0%     | -4 to 5%                | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ●●●●●          | TIU        |
| BELLBIRD           | -1%    | -9 to 3%                | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ●●●●●          | KORIMAKO   |
| NEW ZEALAND PIGEON | -5%    | -38 to 13%              | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ○○○○○          | KERERŪ     |
| BLACKBIRD          | -8%    | -11 to -5%              | ○             | ○                | ○               | ●                   | ○                | ○                 | ○              | ●●●○○          | MANU PANGO |
| CHAFFINCH          | -13%   | -19 to -8%              | ○             | ○                | ●               | ○                   | ○                | ○                 | ○              | ●●●●○          | PAHIRINI   |
| SONG THRUSH        | -25%   | -30 to -21%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●○○○○          |            |
| GOLDFINCH          | -28%   | -34 to -23%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          |            |
| DUNNOCK            | -34%   | -44 to -24%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          |            |
| STARLING           | -45%   | -51 to -41%             | ○             | ●                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TĀRINGI    |
| SILVEREYE          | -61%   | -65 to -58%             | ●             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TAUHOU     |

### NUMBER OF GARDEN SURVEYS



# How have bird counts changed?

## WEST COAST REGION | 2007-2017

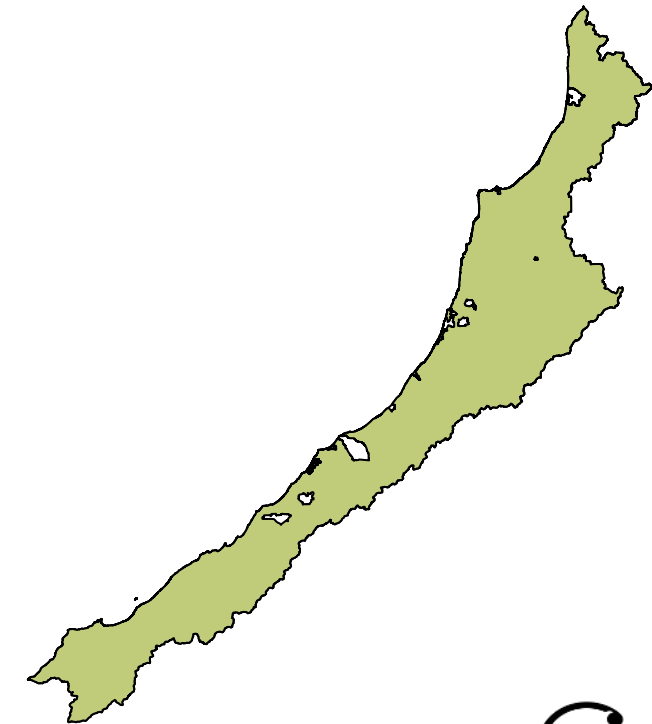
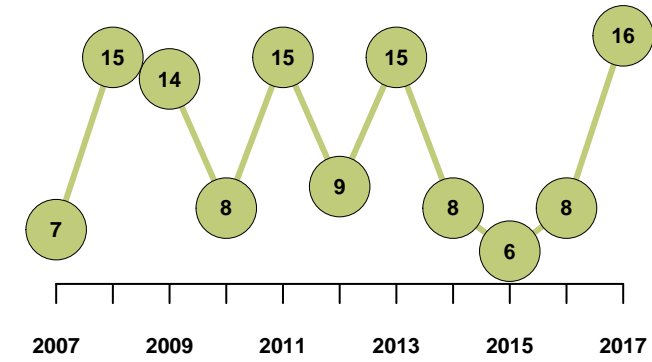
### Rural (Incl. some Off Shore Islands)



New Zealand  
**GARDEN BIRD SURVEY**

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| GREENFINCH         | 52%    | 33 to 66%               | ○             | ○                | ○               | ○                   | ●                | ●                 | ○              | ●○○○○          |            |
| TUI                | 48%    | 38 to 56%               | ○             | ○                | ○               | ○                   | ●                | ●                 | ○              | ●●●●●          | KŌKŌ       |
| HOUSE SPARROW      | 12%    | 8 to 18%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●○○          | TIU        |
| NEW ZEALAND PIGEON | 10%    | -3 to 21%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ○○○○○          | KERERŪ     |
| FANTAIL            | 6%     | 4 to 8%                 | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | PĪWAIWAKA  |
| BELLBIRD           | -1%    | -4 to 2%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | KORIMAKO   |
| BLACKBIRD          | -7%    | -10 to -5%              | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          | MANU PANGO |
| CHAFFINCH          | -12%   | -16 to -8%              | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●○          | PAHIRINI   |
| GOLDFINCH          | -24%   | -29 to -19%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| SONG THRUSH        | -25%   | -29 to -21%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●○○○○          |            |
| STARLING           | -26%   | -32 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          | TĀRINGI    |
| DUNNOCK            | -28%   | -37 to -18%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          |            |
| SILVEREYE          | -49%   | -53 to -47%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TAUHOU     |

## NUMBER OF GARDEN SURVEYS



# How have bird counts changed?



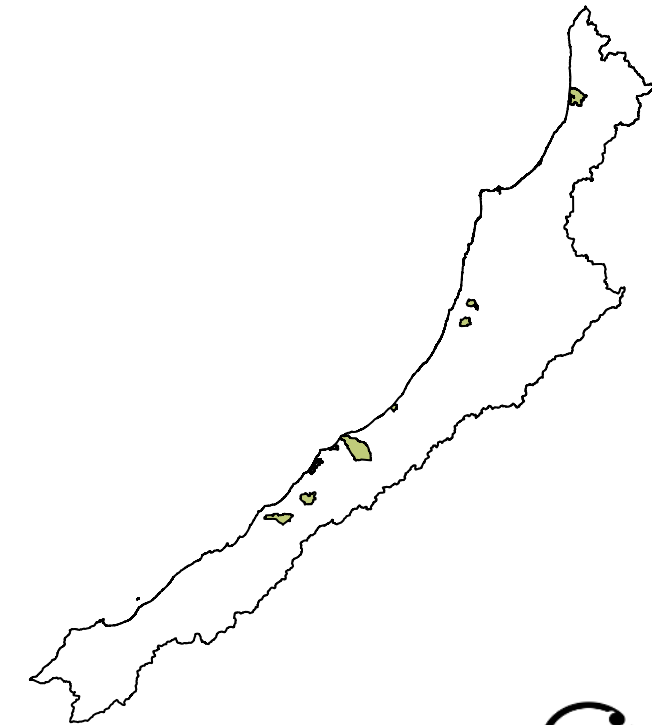
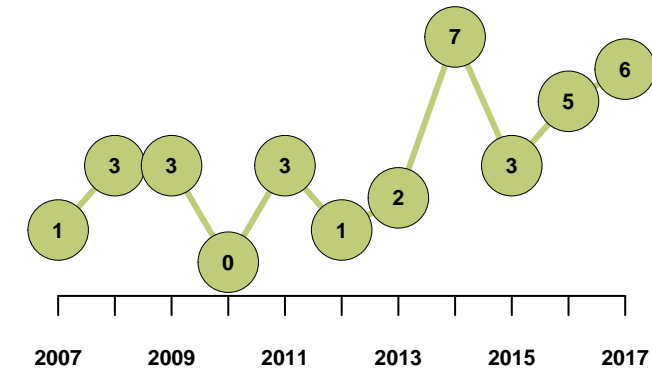
New Zealand  
**GARDEN BIRD SURVEY**

## WEST COAST REGION | 2007-2017

### Rural Centre

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| GREENFINCH         | 36%    | 17 to 49%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          |            |
| HOUSE SPARROW      | 18%    | 14 to 24%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | TIU        |
| TUI                | 17%    | 7 to 25%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●○          | KŌKŌ       |
| NEW ZEALAND PIGEON | 8%     | -7 to 20%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ○○○○○          | KERERŪ     |
| FANTAIL            | 6%     | 4 to 8%                 | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | PĪWAIWAKA  |
| BELLBIRD           | -1%    | -6 to 2%                | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | KORIMAKO   |
| BLACKBIRD          | -10%   | -13 to -8%              | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          | MANU PANGO |
| SONG THRUSH        | -19%   | -23 to -15%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| GOLDFINCH          | -23%   | -29 to -18%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| CHAFFINCH          | -23%   | -26 to -19%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | PAHIRINI   |
| STARLING           | -26%   | -32 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          | TĀRINGI    |
| DUNNOCK            | -31%   | -41 to -21%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          |            |
| SILVEREYE          | -56%   | -59 to -53%             | ●             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TAUHOU     |

NUMBER OF GARDEN SURVEYS





# How have bird counts changed?

## WEST COAST REGION | 2007-2017

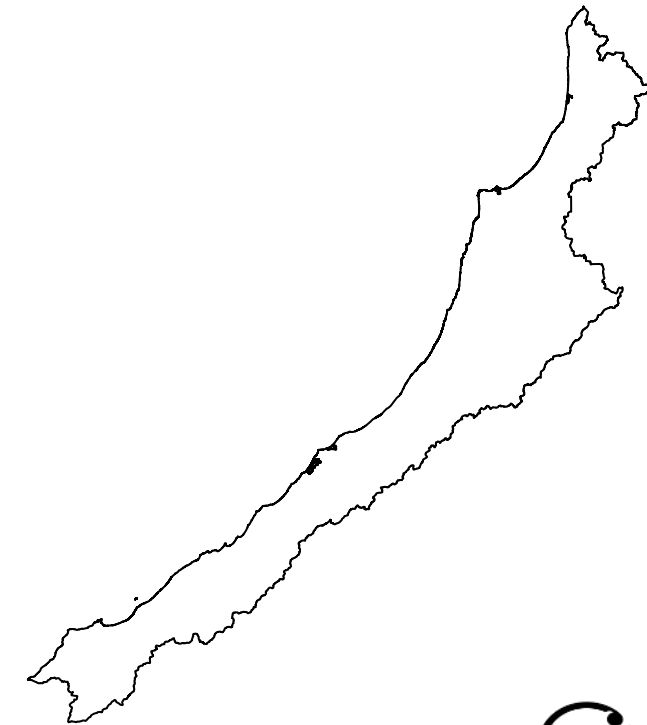
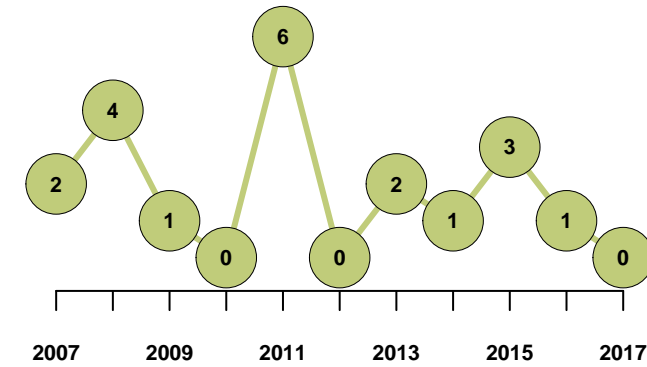
### Westport



New Zealand  
**GARDEN BIRD SURVEY**

|                    | Median | 80% Confidence Interval | Rapid decline | Moderate decline | Shallow decline | No or little change | Shallow increase | Moderate increase | Rapid increase | Quality rating |            |
|--------------------|--------|-------------------------|---------------|------------------|-----------------|---------------------|------------------|-------------------|----------------|----------------|------------|
| GREENFINCH         | 108%   | 91 to 121%              | ○             | ○                | ○               | ○                   | ○                | ○                 | ●              | ●●●○○          |            |
| TUI                | 63%    | 46 to 76%               | ○             | ○                | ○               | ○                   | ○                | ●                 | ○              | ●●●●○          | KŌKŌ       |
| FANTAIL            | 17%    | 11 to 22%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●●●●          | PĪWAIWAKA  |
| NEW ZEALAND PIGEON | 16%    | -6 to 33%               | ○             | ○                | ○               | ○                   | ●                | ○                 | ○              | ●●○○○          | KERERŪ     |
| HOUSE SPARROW      | 10%    | 6 to 16%                | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ○○○○○          | TIU        |
| BELLBIRD           | -2%    | -14 to 7%               | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          | KORIMAKO   |
| BLACKBIRD          | -9%    | -12 to -6%              | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●○○○          | MANU PANGO |
| CHAFFINCH          | -16%   | -21 to -12%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | PAHIRINI   |
| STARLING           | -26%   | -33 to -22%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●○○          | TĀRINGI    |
| GOLDFINCH          | -30%   | -36 to -25%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| SONG THRUSH        | -32%   | -37 to -27%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| DUNNOCK            | -36%   | -46 to -26%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          |            |
| SILVEREYE          | -45%   | -48 to -41%             | ○             | ○                | ○               | ○                   | ○                | ○                 | ○              | ●●●●●          | TAUHOU     |

NUMBER OF GARDEN SURVEYS





New Zealand  
**GARDEN  
BIRD  
SURVEY**

**2018**  
30 June to 8 July

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