Birds!
Are they canaries in a Cowichan Coal Mine?

David Aldcroft
Cowichan Watershed Board
VIU Speaker Series
January 2015
For Discussion Tonight

- Who are you guys?
- Population trends
- New technology aiding bird research
- Why these trends?
- What we can do?
Acknowledgements

- Cowichan Tribes
- VIU
- Barry Hetschko
- Dan Buffett, Ducks Unlimited Canada
- All the bird counters.

Photo by Barry Hetschko
Who are you guys?

- Scientists?
- Naturalists?
- Concerned citizens?
Population Trends

Geese, Swans, Dabbling Ducks

...a few examples
Trumpeter swan

© Barry Hetschko
## Duncan Christmas Bird Count

<table>
<thead>
<tr>
<th>Year</th>
<th>Trumpeter Swan</th>
<th>Canada Goose</th>
<th>American Wigeon</th>
<th>Mallard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>941</td>
<td>1865</td>
<td>2409</td>
<td>1813</td>
</tr>
<tr>
<td>2013</td>
<td>589</td>
<td>1385</td>
<td>1282</td>
<td>1566</td>
</tr>
<tr>
<td>2012</td>
<td>827</td>
<td>3125</td>
<td>2706</td>
<td>1678</td>
</tr>
<tr>
<td>2011</td>
<td>485</td>
<td>2567</td>
<td>2973</td>
<td>2542</td>
</tr>
<tr>
<td>2010</td>
<td>845</td>
<td>3123</td>
<td>2117</td>
<td>1912</td>
</tr>
<tr>
<td>2009</td>
<td>1767</td>
<td>2654</td>
<td>1621</td>
<td>2632</td>
</tr>
<tr>
<td>2008</td>
<td>496</td>
<td>922</td>
<td>1022</td>
<td>1811</td>
</tr>
<tr>
<td>2007</td>
<td>990</td>
<td>3756</td>
<td>2564</td>
<td>2700</td>
</tr>
<tr>
<td>2006</td>
<td>839</td>
<td>1225</td>
<td>3677</td>
<td>4848</td>
</tr>
<tr>
<td>2005</td>
<td>1104</td>
<td>1212</td>
<td>2771</td>
<td>1929</td>
</tr>
<tr>
<td>2004</td>
<td>951</td>
<td>1829</td>
<td>1639</td>
<td>1649</td>
</tr>
<tr>
<td>2003</td>
<td>659</td>
<td>1535</td>
<td>916</td>
<td>891</td>
</tr>
<tr>
<td>2002</td>
<td>883</td>
<td>2219</td>
<td>1965</td>
<td>1831</td>
</tr>
<tr>
<td>2001</td>
<td>1189</td>
<td>2634</td>
<td>1125</td>
<td>1684</td>
</tr>
<tr>
<td>2000</td>
<td>996</td>
<td>1688</td>
<td>1512</td>
<td>1415</td>
</tr>
<tr>
<td>1999</td>
<td>1021</td>
<td>1356</td>
<td>2652</td>
<td>1549</td>
</tr>
<tr>
<td>1998</td>
<td>941</td>
<td>1709</td>
<td>2581</td>
<td>1793</td>
</tr>
<tr>
<td>1997</td>
<td>679</td>
<td>1070</td>
<td>3201</td>
<td>1894</td>
</tr>
<tr>
<td>1996</td>
<td>828</td>
<td>1169</td>
<td>2418</td>
<td>3021</td>
</tr>
<tr>
<td>1995</td>
<td>690</td>
<td>1713</td>
<td>2438</td>
<td>3754</td>
</tr>
<tr>
<td>1994</td>
<td>730</td>
<td>1252</td>
<td>2727</td>
<td>2571</td>
</tr>
<tr>
<td>1993</td>
<td>527</td>
<td>689</td>
<td>1862</td>
<td>2463</td>
</tr>
<tr>
<td>1992</td>
<td>677</td>
<td>918</td>
<td>1287</td>
<td>1850</td>
</tr>
<tr>
<td>1991</td>
<td>414</td>
<td>1657</td>
<td>3098</td>
<td>3698</td>
</tr>
<tr>
<td>1990</td>
<td>465</td>
<td>970</td>
<td>1716</td>
<td>5553</td>
</tr>
<tr>
<td>1989</td>
<td>320</td>
<td>556</td>
<td>3960</td>
<td>1828</td>
</tr>
<tr>
<td>1988</td>
<td>221</td>
<td>892</td>
<td>2078</td>
<td>1255</td>
</tr>
<tr>
<td>1987</td>
<td>163</td>
<td>620</td>
<td>2928</td>
<td>2170</td>
</tr>
<tr>
<td>1986</td>
<td>191</td>
<td>634</td>
<td>2007</td>
<td>1895</td>
</tr>
<tr>
<td>1985</td>
<td>185</td>
<td>445</td>
<td>1233</td>
<td>1100</td>
</tr>
<tr>
<td>1984</td>
<td>112</td>
<td>337</td>
<td>557</td>
<td>613</td>
</tr>
<tr>
<td>1983</td>
<td>66</td>
<td>312</td>
<td>987</td>
<td>562</td>
</tr>
<tr>
<td>1982</td>
<td>52</td>
<td>411</td>
<td>3111</td>
<td>1514</td>
</tr>
<tr>
<td>1981</td>
<td>43</td>
<td>468</td>
<td>2634</td>
<td>1411</td>
</tr>
<tr>
<td>1980</td>
<td>28</td>
<td>252</td>
<td>4574</td>
<td>2331</td>
</tr>
</tbody>
</table>
Mute swan

© Barry Hetschko
Canada goose
Canada goose

Impacts of resident Canada geese

Little Qualicum River estuarine marsh - 1978 (left) and 2005 (right).
Mallard

© Barry Hetschko
Mallard

Northern Shoveller

© Barry Hetschko
Northern Shoveller

BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Northern Shoveller within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Pintail

© Barry Hetschko
BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Northern Pintail within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Ruddy Duck
Long tailed Duck

Photo by permission of Ducks Unlimited Canada
BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Long tailed Duck within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Wood duck
Wood Duck

Diving Ducks
Barrow’s Goldeneye
Barrow’s Goldeneye

White Winged Scoter
White Winged Scoter

BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for White winged Scoter within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Surf Scoter within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Bufflehead

© Barry Hetschko

21/01/2015  Cowichan Watershed Board / VIU Speakers Series
BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Bufflehead within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Harlequin Duck

Photo by permission of Ducks Unlimited Canada
Harlequin Duck

BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Harlequin Duck within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Hooded Merganser

Common Merganser

Western Grebes
Western Grebe

BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Western Grebe within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Double-Crested Cormorant

© Barry Hetchko

21/01/2015 Cowichan Watershed Board / VIU Speakers Series
Double-crested Cormorant

Other Waterbirds
Great Blue Heron

© Barry Hetschko
Great Blue Heron


21/01/2015
Glaucous-winged Gull
Glaucous-winged Gull

BC Coastal Waterbird Survey. Mean annual site-counts (Dec-Feb) for Glaucous-winged gull within the Strait of Georgia 1999-2011. Thanks to all BCCWS volunteers!
Marsh Wren & Red-winged Blackbird

21/01/2015 Cowichan Watershed Board / VIU Speakers Series
Marsh Wren


21/01/2015

Cowichan Watershed Board / VIU Speakers Series
Red-winged Blackbird


21/01/2015
Northern Harrier

© Barry Hetschko
Osprey

© Barry Hetschko
Osprey

Other Species
Bald Eagle
Bald Eagle

To all our members

The winged tagged Bald Eagle No. 44 seen by the swan counters on Jan 7th 2015 has been identified, big thank you to Gillian Radcliffe at Pacific Northwest Raptors for all her help. Here is the information she received:

Hi, Orange K-44 (see attached photo) would be a male that hatched at our Pinnacle Rock nest on Santa Catalina Island, CA in 2014. This would be the first reported sighting of it since it left its natal territory. We have had reports of at least 3 other birds from 2014 in the Oregon and Washington area in the past couple of months, including two (from two different islands) photographed together west of Seattle. If anyone gets a photo, I’d love to see it.

Thanks.
K44
Peter Sharpe, Ph.D.
Institute for Wildlife Studies
P.O. Box 2500
Avalon, CA 90704
310-510-2728
www.iws.org
Stellars Jay
Stellars Jay

Owls

Barred

Great Horned
Owls

Western Screech

Source: http://www.sararegistry.gc.ca
American Robin
American Robin

Rufous Hummingbird

Swallows
Barn Swallows

Swallows

Indicators of the average population status of two groups of aerial insectivores. (State of Canada’s Birds 2012)
Summary of Factors Affecting Population Trends
Global Factors

➤ Migration

➤ Global Habitat

- Loss of tropical rainforest
- Loss of wetlands
- Climate change
- Human population
- Industrial pesticides
Global Factors

Science-based Environmental Assessment Processes

- Local
- BC
- Federal

Examples: pipelines, Roberts Bank, siting wind farms

Photo: Keith Woodley

Cowichan Watershed Board / VIU Speakers Series
Local Factors

- Climate
- Water quality
- Water quantity
- Habitat protection – e.g. Somenos Marsh, Cowichan estuary, riparian

Cowichan Estuary

Cowichan Watershed Board / VIU Speakers Series

21/01/2015
Household Factors

- Invasive species
- Cats
- Pesticides
- Plastics
- Toxic products
What Can We Do?

Community Level
(i.e. Cowichan Watershed Board and Friends)

- protect habitat
- restore riparian and estuary ecosystems
- restore water quality and quantity
- protect fish and other food sources

Citizen Stewardship in action!
Cowichan River Cleanup 2012
What Can YOU Do?

In the Home

- Cats – neuter and keep indoors
- Recycling
- Use less toxic products including pesticides
- Keep part of your garden wild
- Put up bird nest boxes.
- Leave wild nests in peace.
- Use water wisely
- Buy shade-grown coffee.
What Can YOU Do?

Be a Bird Champion

- **Protect habitat! Join a Stewardship group** – Cowichan Valley Naturalists, Somenos Marsh Society, Cowichan Land Trust, Cowichan Lake and Stream Stewardship Society, etc. – volunteer, donate, or both.

- **Citizen Science!** Take a streamkeepers course, help with bird surveys (even beginners) E-bird, Project Feeder Watch, Nocturnal Owl Survey, Breeding Bird Surveys, Coastal Waterbird Surveys, eel grass planting, forage fish surveys, etc.

- **Write letters** – all 3 levels of gov’t, newspapers.
What Can YOU Do?

Reasons for Optimism

1. International cooperation

- **nabci - The North American Bird Conservation Initiative**: Canada, the United States and Mexico to coordinate bird conservation throughout the continent.

- **WHSRN - Western Hemisphere Shorebird Reserve Network**: Identified and helped conserve over 80 vital stop over, breeding and over wintering sites for shorebirds.

- **Bird Life International**: Birdlife International is a worldwide partnership of conservation organisations working to protect the world's birds and their habitats.
What Can YOU Do?

Reasons for Optimism

2. Modern technology

- Miniaturization of tracking devices
- Feather isotope analysis
- Bird banding
- E-bird – easier access for citizen scientists (http://ebird.org)
- Apps for bird education
Thank you