

Improving the Feedback Loop: a riparian restoration bird report card for landowners in Marin County

Nathaniel Seavy and Thomas Gardali

4 May 2011, *Stream Restoration Success Workshop, Novato, California*



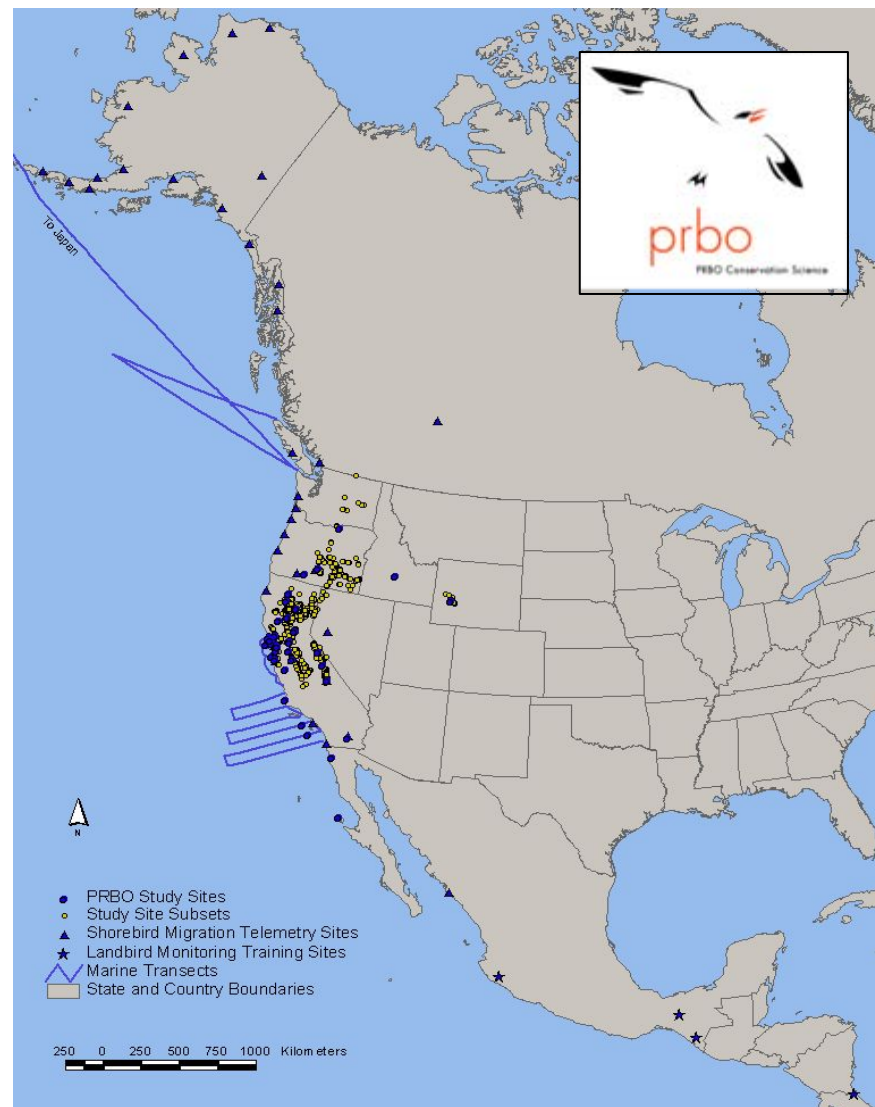
Conserving birds, other wildlife, and ecosystems through innovative scientific research and outreach

- Founded in 1965
- Areas of emphasis:
 - ecological informatics
 - innovative partnerships
 - long-term monitoring
 - climate change



PRBO Headquarters, Petaluma, California

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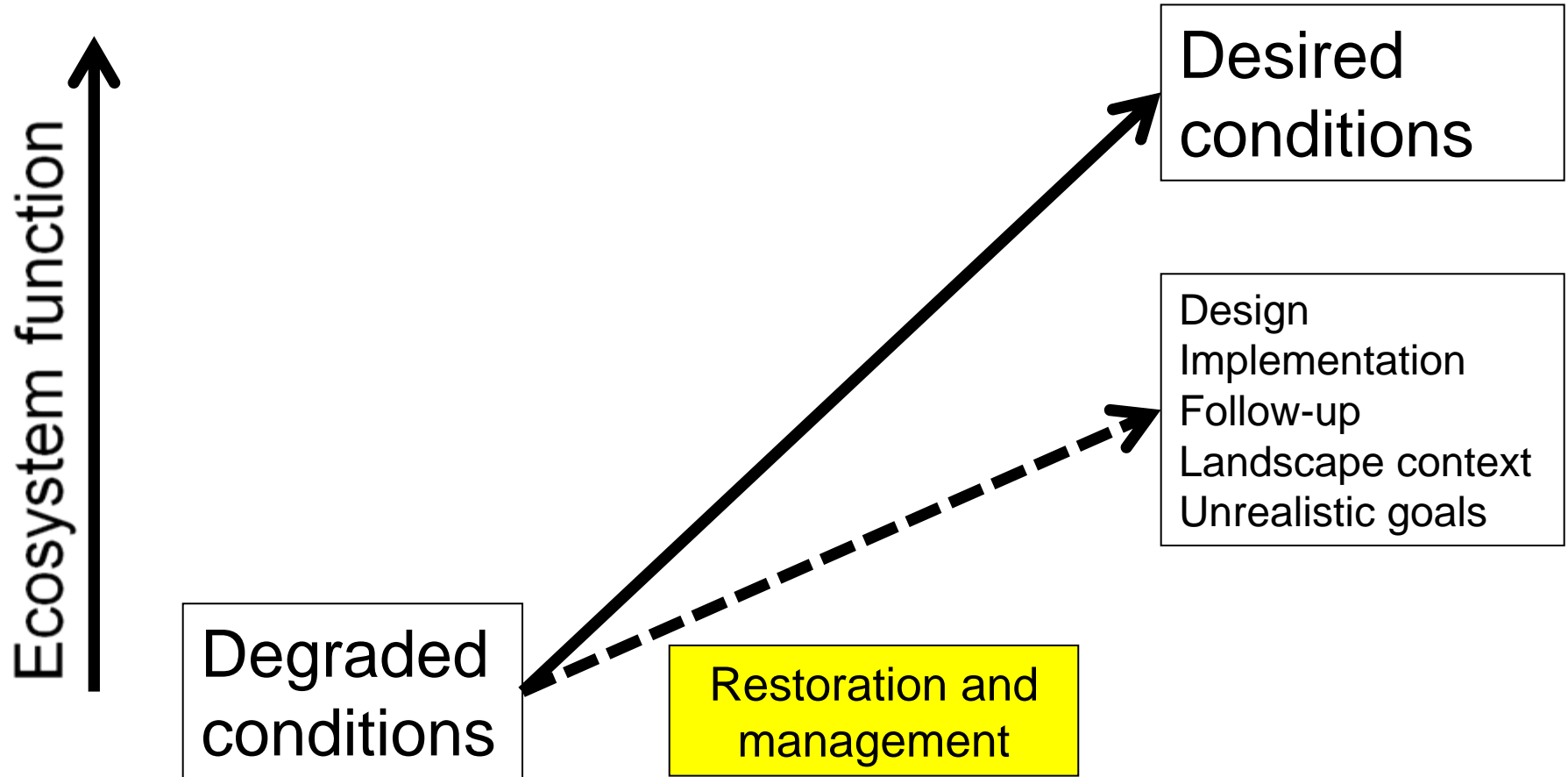


Presentation outline

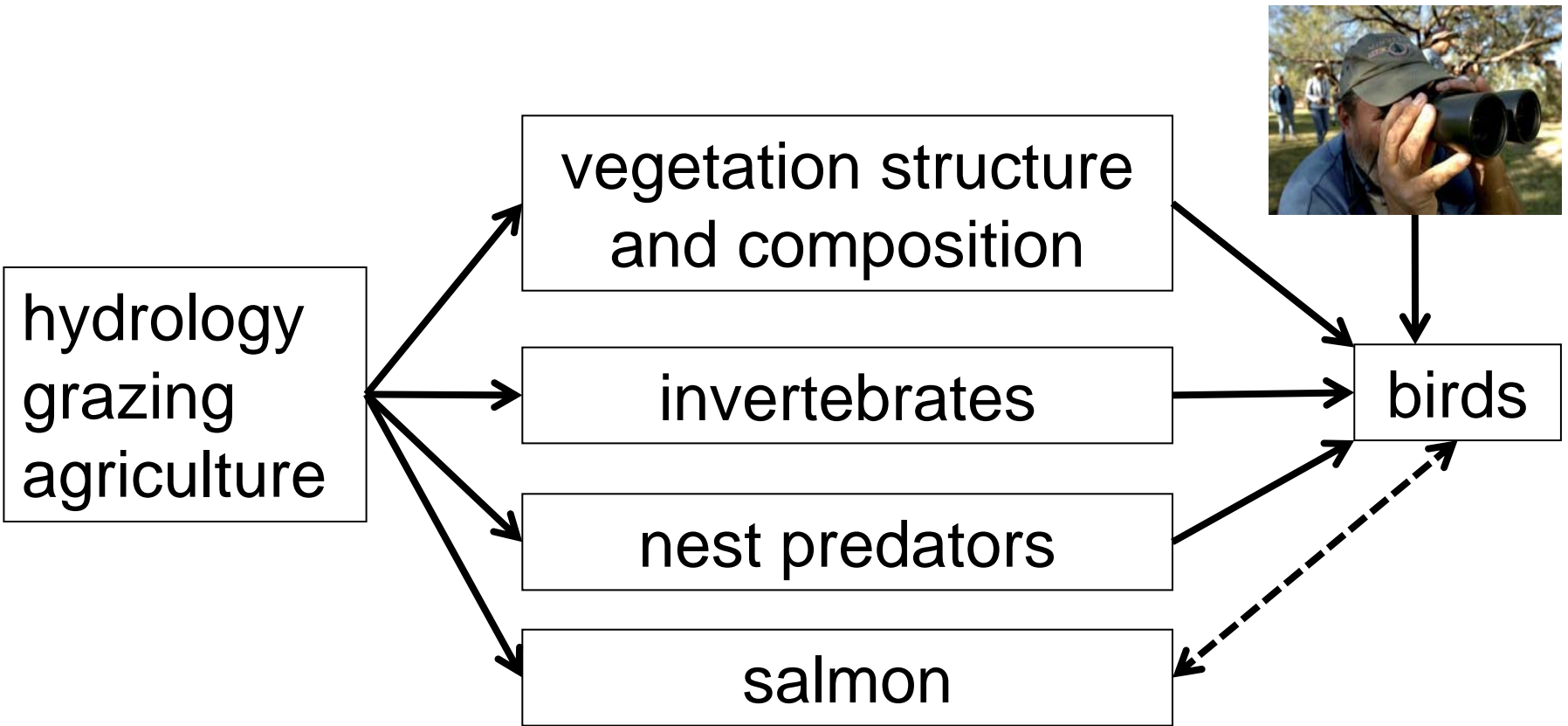
1. The challenge of informing restoration
2. A report card concept (wish list)
3. Our riparian bird index for Marin/Sonoma
4. Field applications
5. How you can help



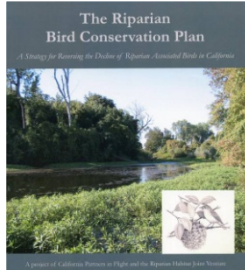
The restoration/monitoring challenge



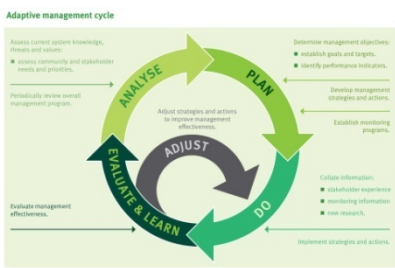
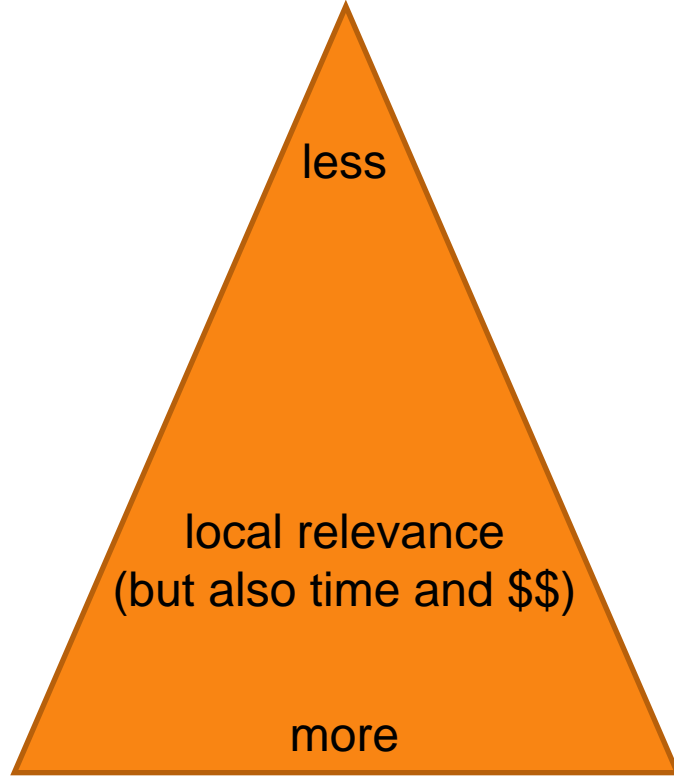
Birds as indicators of ecosystem function



How do we make recommendations for achieving desired conditions?



1. Descriptions of bird habitat
2. Outcomes of previous restoration efforts
3. Site-specific conditions and results (adaptive management)



Example of landowner letter

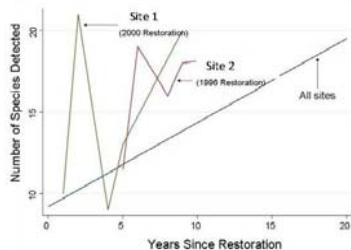


Dear Landowner,

December 4, 2009

Thank you very much for allowing PRBO Conservation Science to conduct bird surveys on your restored riparian (creek-side) sites in May and June, 2009.

Thanks to participation from landowners like you, we have bird data from 15 ranches in Marin and Sonoma counties. Adding these data to 2000, 2001-2002 and 2004-2005 has allowed us to conduct an analysis of bird response to restoration age. Below is a graph, which includes data from your ranch and others, showing a statistically significant increase in the number of different bird species with increasing age of restoration. We are excited by these results which are a testament to your hard work restoring and managing your creek. Birds provide an excellent way to evaluate restoration as they are known to be good indicators of ecosystem health.



In Marin and Sonoma, most birds nest in riparian areas April through July. These birds need thick vegetation in which to hide their nests and young, and most build their nests within 10 feet of the ground. **At a minimum, excluding cattle from your riparian corridor from March through July is a great way to help birds. Longer periods of rest or permanent exclusion will provide even greater results.**

Below are some recommendations to help you continue to increase the number of bird species supported by your creek-side habitat:

- Plant and maintain native understory
- Remove non-natives
- Maintain / manage adjacent habitats for birds
- Increase the width of the riparian corridor (creek-side vegetation)

Attached you will find a list of the individual bird species recorded on your property. Most observations were of birds singing, calling, or feeding; but some were seen collecting materials to build nests and carrying food for young.

It's been a pleasure working with you. If you have any questions or feedback regarding our work or the bird counts that we conducted, please feel free to contact Tom Gardali at (415) 868-0655, ext. 381 or tgardali@prbo.org.

Warm regards,

Missy Wipf
Conservation Biologist, PRBO Conservation Science

Riparian Restoration Bird Species List from Marin RCD-PRBO-NRCS Bird Counts in May-June 2009

The bird species listed below were detected between May-June 2009 in restored areas of your creek. Most of these species were likely nesting in the riparian (creek-side) zone, but those confirmed nesting (nests or young found during counts) are listed in **bold**, some unlikely breeders are listed in *italics*, and any non-native species are followed with *.



Bird Species Detected

1. Allen's Hummingbird
2. American Crow
3. **American Goldfinch**
4. American Robin
5. Anna's Hummingbird
6. Ash-throated Flycatcher
7. Black-headed Grosbeak
8. Black Phoebe
9. Brown-headed Cowbird
10. **Bush-tit**
11. **California Towhee**
12. Chestnut-backed Chickadee
13. Cliff Swallow
14. Downy Woodpecker
15. European Starling*
16. House Finch
17. House Sparrow
18. Lark Sparrow
19. **Lazuli Bunting**
20. Mourning Dove
21. Nuttall's Woodpecker
22. Oak Titmouse
23. Orange-crowned Warbler
24. Purple Finch
25. Red-winged Blackbird
26. Savannah Sparrow
27. **Song Sparrow**
28. Spotted Towhee
29. Swainson's Thrush
30. Warbling Vireo
31. **Western Bluebird**
32. Western Scrub-jay
33. Wilson's Warbler

Where Do I Nest in Riparian Areas?

- near ground
- canopy
- mid-story
- mid-story or canopy
- mid-story
- cavity in branch or structure
- mid-story
- creek bank, bridge or other low structure
- lays eggs in other birds' nests
- mid-story
- near ground
- cavity in branch or structure
- creek bank, bridge or other low structure
- cavity in branch or structure
- cavity in branch or structure
- mid-story
- cavity in branch or structure
- cavity in branch or structure
- near ground
- canopy
- near ground
- near ground
- near ground
- near ground
- canopy
- cavity in branch or structure
- mid-story or canopy
- near ground



Four riparian songbirds (clockwise from top left): Song Sparrow, Yellow Warbler, Black-headed Grosbeak and Common Yellowthroat. Artwork by Zac Denning

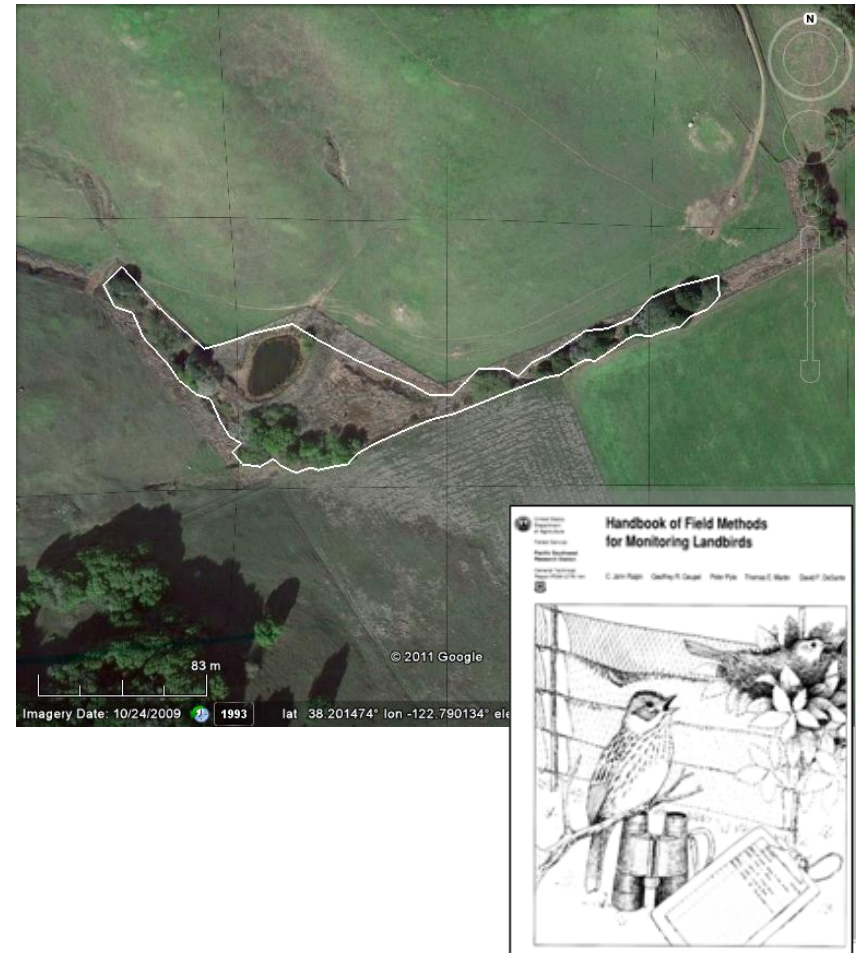
What would an effective site-specific report card entail?

1. Data easy to collect
2. Performance metrics based on local conditions
3. Results are easy to interpret
4. Designed to track and improve practices

1. Data Easy to collect

Area search bird survey protocol

1. 1-4 ha plot (any shape)
2. Observers spend ~20 minutes covering the area
3. All birds encountered recorded
4. Flexibility to track down unknown calls, mixed-flocks, etc.
5. On-line data entry available at California Avian Data Center (www.prbo.org/cadc)



2. Performance metrics based on local conditions

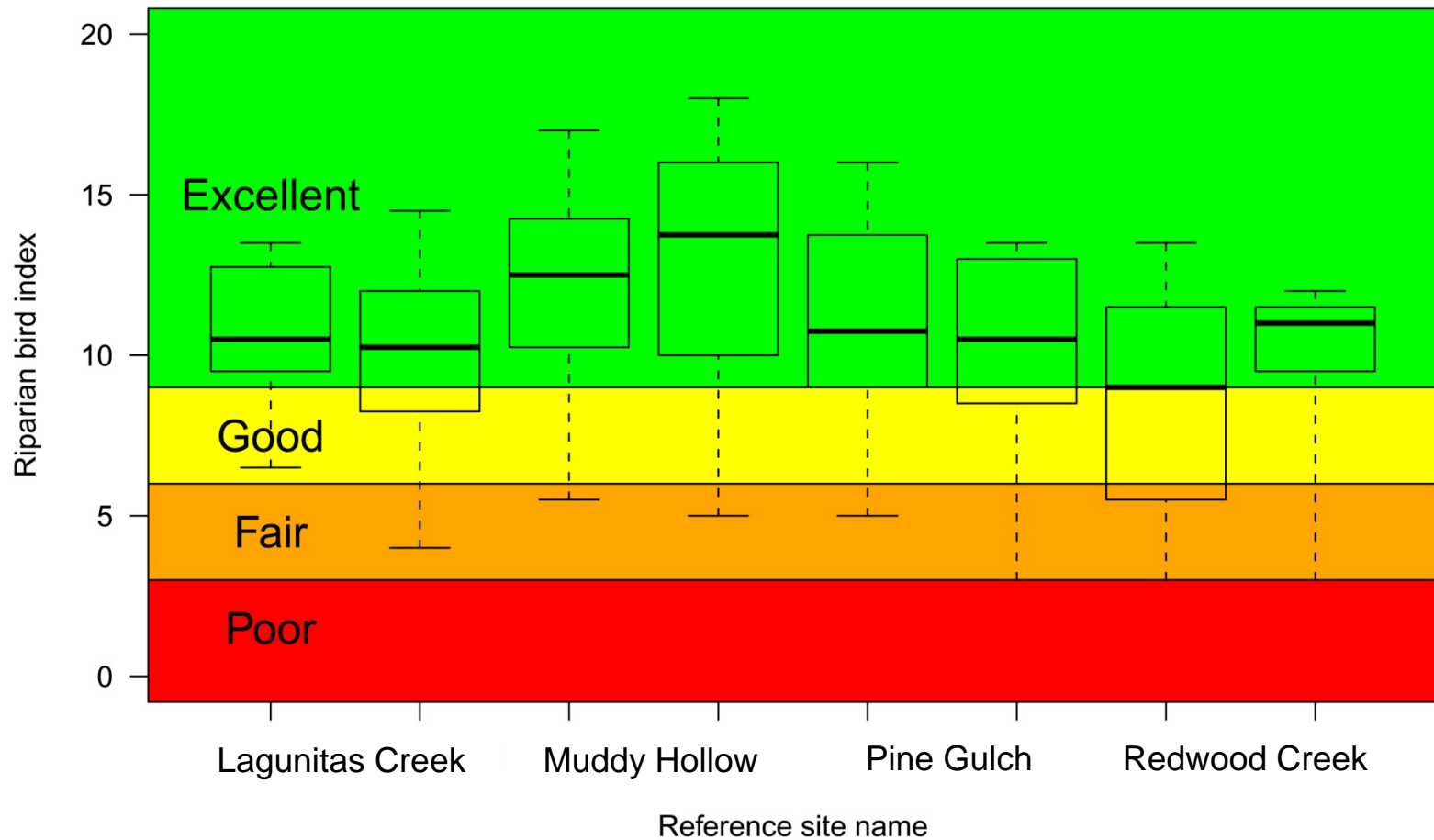
Three tiers of bird species:

1. 10 riparian “obligate” species (2 points each)
2. 16 riparian-associated species (1 point each)
3. 7 generalist species (0.5 points each)

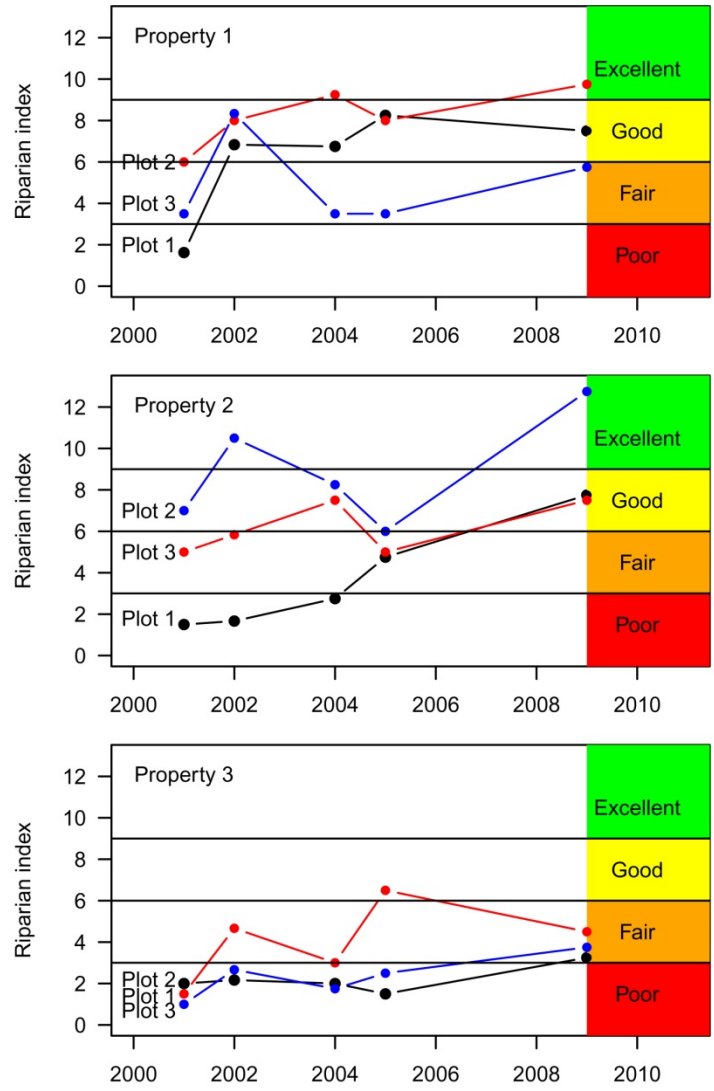
Points scored if a species occurs on an area search
(regardless of abundance)

Riparian bird index = sum of points for one area search

3. Results are easy to interpret



3. Results are easy to interpret



4. Designed to track and improve practices

Marin County Riparian Restoration Report Card – 2009

Riparian birds act as indicators of riparian habitat health. This report card uses information about the birds that occur on your restoration sites to compare their performance to healthy riparian sites (which should score good or excellent). To learn more about this rating system visit: www.prbo.org



PROPERTY NAME

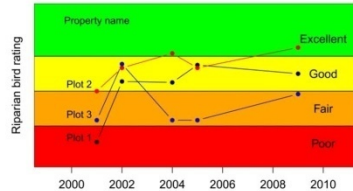
Restoration Performance

Current status and trend: Of the three monitoring plots (map below), all are currently rated as good or fair (figure below). The performance of most plots has increased since restoration. Plot 3 has failed to achieve the same condition as Plots 1 and 2. We encourage you to visit Plot 3 to make sure there are not any management modifications that might benefit this area and other areas like this in your restoration.

Biodiversity: Over the xx years of monitoring, a total of xx bird species have been detected on this property. These species have included the following notable species: Threatened or Endangered: XXXX; California Bird Species of Special Concern: XXXX; Partners in Flight Riparian Focal Species: XXXX.

Other Wildlife: NOTES ABOUT ANYTHING ELSE

Monitoring contact: PRBO Conservation Science, NAME, e-mail.



Restoration Description

Restoration size: ## acres.

Restoration targets: Short description of what the goals of restoration were, e.g., Prevent erosion, return woody vegetation, provide bird habitat, etc.

Restoration activities: Short description of the restoration design.

Year restored: YEAR

Post restoration management: Short description of the activities that have taken place in each year after restoration.

Restoration contact: PERSON WITH MORE INFO ABOUT RESTORATION DESIGN.

What else can you do?

In Marin and Sonoma, most birds nest in riparian areas April through July. These birds need thick vegetation in which to hide their nests and young, and most build their nests within 10 feet of the ground. At a minimum, excluding cattle from your riparian corridor from March through July is a great way to help birds. Longer periods of rest or permanent exclusion will provide even greater results.

Property Name Riparian Restoration Bird Species List

from Marin RCD-PRBO-NRCS Bird Counts in May-June 2009



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How you can help

Will the performance score (poor, fair, good, and excellent) be useful to landowners and restorationists?

Would receiving a low score discourage a landowner from further restoration?

Is the title “report card” too strong? If so, can you recommend another title?

Is there any additional information that should be included on the report card?

Acknowledgments

This project would not be possible without participation from private landowners committed to land stewardship.

We thank Marin Community Foundation for recognizing the value of evaluating riparian restoration.

Nancy Scolari (Marin RCD) and Charlette Epifanio (NRCS) provided invaluable advice and support.

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