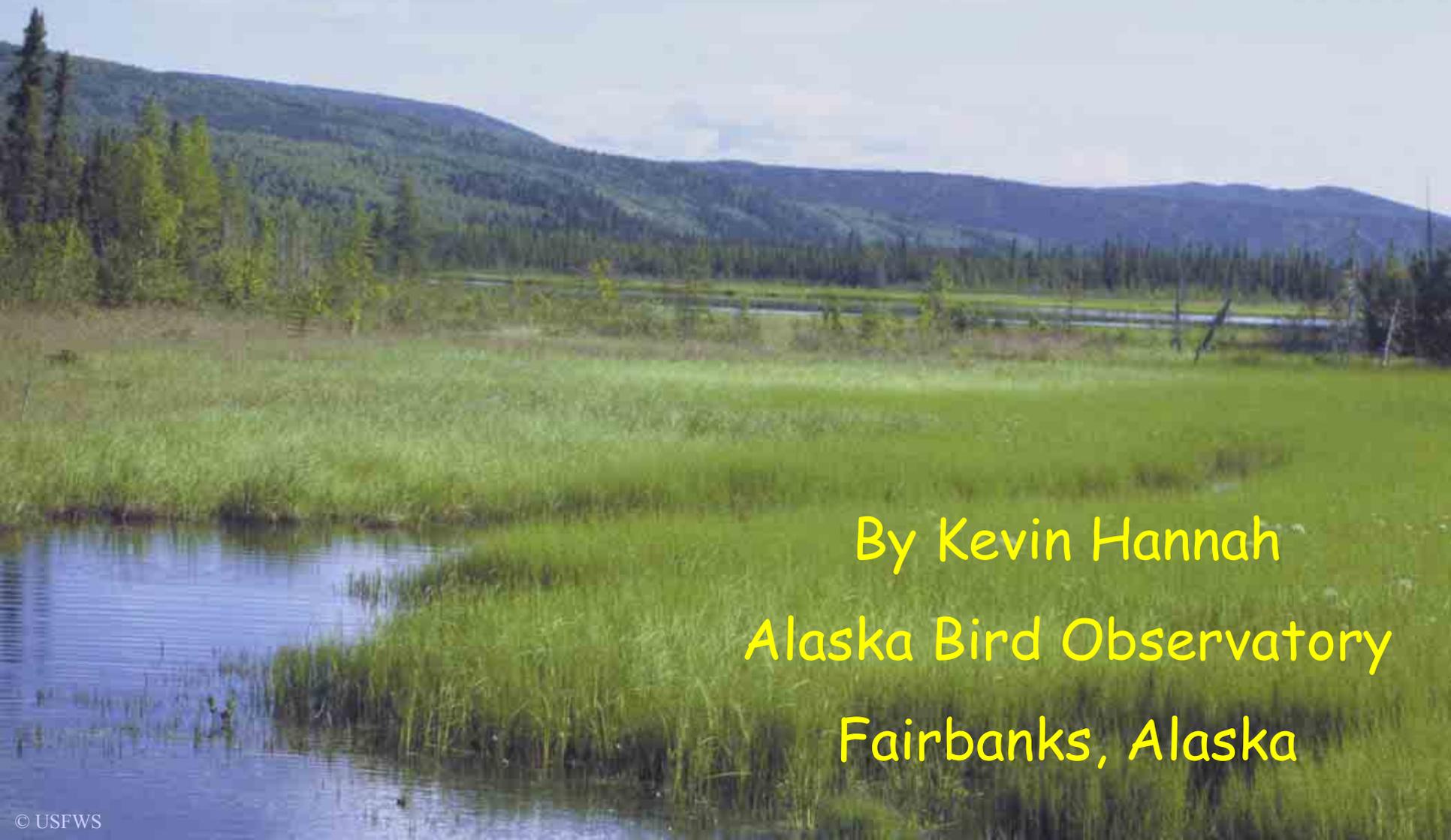




Monitoring Boreal Wetland Birds



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Why monitor wetland birds?

- 1) Most species (non-waterfowl) are poorly understood or thought to be declining
- 2) Most species not adequately monitored by existing programs
- 3) Wetlands may be input source for ecosystem contamination

Rusty Blackbird

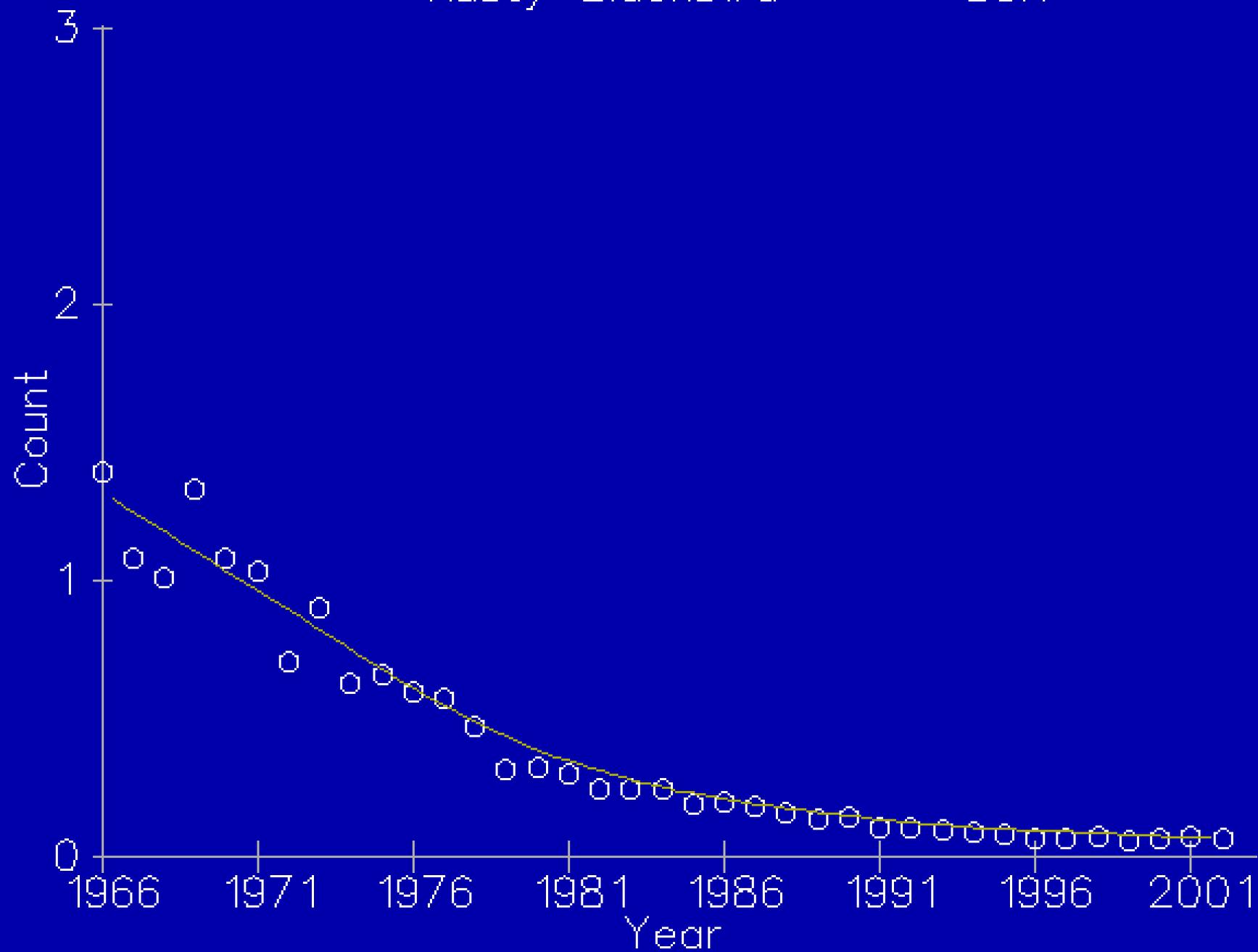


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- Moist coniferous woodlands
- BBS -92.8% 1966-1996
- CBC -89.6% 1958-1988
(Greenberg and Droege 1999)
- Alaska BBS (-5.3%/yr, n = 21, $P = 0.09$) 1980-2002
- Power analysis suggests BBS (n = 147) with 90% power to detect sig. change

Rusty Blackbird

SUR



Shorebirds

- Lesser Yellowlegs
Western BBS (-6.7%/yr, n = 43, $P = 0.01$) 1980-2002
Alaska BBS (-4.7%/yr, n = 37, $P = 0.06$) 1980-2002
- Solitary Sandpiper
Alaska BBS (-4.1%/yr, n = 20, $P = 0.02$) 1980-2002



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Horned Grebe

- Apparent range contraction to northwest Western BBS (-5.2%/yr, $P < 0.01$) 1980-2002



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Gulls and Terns

- Bonaparte's Gull and Arctic Tern (Moderate and High concern NAWCP respectively)
- Most aspects of general biology during breeding season not known
- Not adequately monitored by any method on breeding grounds



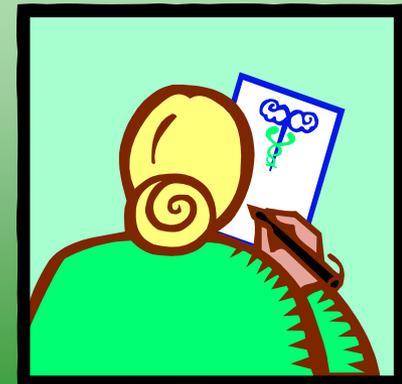
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How do we monitor wetland birds?

- Ground surveys
 - Logistical and financial constraints
- Aerial surveys
 - Never been attempted
 - Requires correction
- Volunteer-based surveys
 - Training, urban bias
 - Variation in effort
 - Lower species diversity



Why Monitor Boreal Wetland Birds?

- Not adequately monitored using other long-term programs
- Clearly something is causing declines in most wetland species
- Northwestern Boreal may represent last remaining intact habitat for several species??

Remaining Issues



- Establish protocols and sampling methods
- Breeding biology, site fidelity?
- Water quality sampling, habitat assessment, amphibians?
- Pilot study?
- Funding?



Acknowledgements

- Ted Swem - USFWS
- Andrea Swingley - Alaska
Bird Observatory (photos)