RCW RECOVERY WG UPDATE

- 2021 NC Sandhills Population Monitoring
- Fall / Winter 2021-22 Activities
- Avian Keratin Disorder
PRIMARY CORE RECOVERY = FB + Conservation Properties

ESSENTIAL SUPPORT = SGL + MACKALL

NC SANDHILLS RCW STUDY AREAS
2021 Breeding Season Potential Breeding Group (PBG) Summary

SANDHILLS EAST

Fort Bragg (FB):

- Est. # PBG not yet determined on FB
- 1 new PBG on Western FB in 2021

CALLOWAY (no gain) ______ (11 PBG)

MCCAIN (no gain) _____ (8 PBG)

Southern Pines / Pinehurst (SOPI)

- PBG # (loss 8) ________ (38 PBG down from 46 in 2020)
- Walthour Moss Foundation (no gain) ______ (16 PBG)

Western MOORE Co. + 2 PBG _____ (13 PBG)

WEYMOUTH WOODS SNP + 1 PBG Paint Hill ________ (4PBG)
RCW groups (PBG) within Sandhills East Private Lands
2001 – 2021

SOPI = Southern Pines/Pinehurst
MOOR = Moore County

* 2012-17 moved 34 HY RCWs from FB to SOPI/MOOR

# SOPI PBG
# MOOR PBG
TOTAL
SANDHILLS WEST

SANDHILLS GAME LAND (SGL)

- SGL A-BLOCK (no gain?) _______PBG # not finalized
- SGL OUTER BLOCKS not assessed during 2021

CAMP MACKALL + 2 PBG _______ (20 PBG)

BLUE + 1 PBG _______ (10 PBG)
Work amongst Partners and Private Land Owners

- Assess suitable cavities in Recovery (WEWO, CALLOWAY MCCAIN) and Safe Harbor Baseline Groups - add artificial cavities and restrictors as needed.

- Refurbish abandoned clusters or create new recruitment clusters where desired and spatially appropriate.

- SOPI: Whereas last year effort and funding secured specifically for Pinehurst Golf Courses No. 1 thru No. 9, target clusters to stabilize historic groups on the Country Club of North Carolina.
Avian Keratin Disorder (AKD) in Red-Cockaded Woodpeckers

Normal

Longbill

Severe Longbill

Majority of longbilled RCW observed have moderate AKD similar to middle example

Fewer cases of extreme elongation
### RCW Clusters with Presence of AKD Observed (May through Aug) in 2019

<table>
<thead>
<tr>
<th>Year</th>
<th># Longbills</th>
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<tbody>
<tr>
<td>2018</td>
<td>13</td>
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<tr>
<td>2019</td>
<td>61</td>
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<td>2020</td>
<td>47</td>
</tr>
<tr>
<td>2021</td>
<td>69</td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
</tr>
</tbody>
</table>

**Diagram:**
- AKD Presence Observed in 49 Clusters (58 Eastern Clusters)
- Fort Bragg Active Clusters: Y (35), N (97)
- ESB Monitored (184)
- Mackall Active Clusters: Y (5), N (13)
- Minor Active Clusters: Y (8), N (41)
- SOPI Active Clusters: Y (1), N (53)
- SGL A Block: Active Clusters
- SGL B-T Blocks: Active Clusters

**Legend:**
- Red: Y (35), N (97)
- Blue: ESB Monitored (184)
- Light Blue: USFWS Monitored (4)
- Green: Mackall Active Clusters (Y, N)
- Orange: SOPI Active Clusters (Y, N)
- Purple: SGL A Block
- Yellow: SGL B-T Blocks

**Map:**
- 20 Miles Scale

**Location:**
- Mackall
- Blue
- W. Ft Bragg
- Moss
- McCain
- Calloway
### Total number of longbills observed by study area and year (2018-2021)

<table>
<thead>
<tr>
<th>Area</th>
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<td>4</td>
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<td>4</td>
<td>1</td>
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<tr>
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<tr>
<td>Total</td>
<td>13</td>
<td>61</td>
<td>47</td>
<td>69</td>
<td>190</td>
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</table>

### Total number of longbill sightings by month and year (2018-2021)

<table>
<thead>
<tr>
<th>Month</th>
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<th>2021</th>
<th>Longbills</th>
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<tr>
<td>August</td>
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<td>3</td>
<td>6</td>
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<td>2</td>
<td>0*</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>61</td>
<td>47</td>
<td>69</td>
<td>190</td>
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</tbody>
</table>
Morphometric RCW bill measurements

Image modified from Borras et al. 2009

Bar chart showing beak measurements:
- Total Culmen
- Exposed Culmen
- Nares to Tip
- Gonys

Comparison between Longbill and Normal conditions.
• AKD seasonal phenomena-normal bill length returns through breakage and/or wear. Prevalence of condition may be under-represented.

• RCW biologists throughout species range alerted, though seemingly afflicting RCW only in the Carolinas, for now.

• 2019 buccal /cloacal swabs tested negative for Poecivirus – USGS lab has 2nd more thorough screening for virus scheduled.

• Future work – possibly more swab sampling and examining impacts on the family group level.