THIS PROJECT RELIES ON VOLUNTEER “COMMUNITY SCIENTISTS” TO COLLECT DATA.
**SUMMARY**

Coast-wide Results: 2016-19

**EFFORT & SITE COVERAGE**

Each year up to 200 surveyors monitored up to 119 pre-identified sites from Baja California (8), California (87), Oregon (18), to Washington (6). Most unsampled sites were in California though all known "megaroosts" were sampled. See Table for breakdown

**PELICAN TOTAL**

The sum of all pelicans observed on the highest count ranged from 4,783 bird in the spring of 2019 to 18,209 in fall of 2018. See Table for breakdown:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Surveyors</th>
<th>Total sites monitored (spring / fall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>205</td>
<td>71 / 80</td>
</tr>
<tr>
<td>2017</td>
<td>216</td>
<td>42 / 83</td>
</tr>
<tr>
<td>2018</td>
<td>304</td>
<td>94 / 83</td>
</tr>
<tr>
<td>2019</td>
<td>276</td>
<td>79 / 86</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>250.3</strong></td>
<td><strong>72 / 83</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Spring</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>3,979</td>
<td>12,823</td>
</tr>
<tr>
<td>2017</td>
<td>2,127</td>
<td>8,820</td>
</tr>
<tr>
<td>2018</td>
<td>5,415</td>
<td>18,209</td>
</tr>
<tr>
<td>2019</td>
<td>4,783</td>
<td>10,144</td>
</tr>
</tbody>
</table>
SUMMARY
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ABUNDANCE PATTERNS
Overall, the average number of pelicans observed was 4-fold higher in the fall compared to the spring. In fall, most pelicans were reported in northern California (Monterrey Bay and north) See map & graph for details.

COLOR-BAND RESIGHTS
Since 2016 19 color-marked pelicans have been resighted: 16 in California and 3 in Oregon contributing to on-going seabird rehabilitation research.

Top 10 Megaroosts (sites that traditionally host >500 pelicans) with average fall count numbers:
- Alameda Breakwater, CA (3,183)
- Pillar Point Harbor, CA (1,481)
- East Sand Island, OR (1,121)
- Ano Nuevo State Park, CA (1,068)
- Salinas River mouth, CA (762)
- Bolinas Lagoon, CA (755)
- Morro Rock, CA (725)
- Moss landing, CA (570)
- Crescent City Harbor, CA (514)
- Bird Rock Tomales, CA (514)
CONCLUSIONS & NEXT STEPS

Preliminary results point to interesting patterns in both abundance and age ratio distribution along the West Coast. Our next step is to examine how abundance of forage fish species that Brown pelicans rely on for food (most importantly anchovies) and annual pelican nesting success at their breeding grounds are influencing the movement patterns we are revealing. This information will help provide new information to better manage and protect this amazing bird!

HOW RELIABLE IS THE MONITORING?

In 2019 pelican researcher Deb Jacques compared counts done by professional surveyors and community scientist volunteers and found volunteer effort performed very well at capturing distribution and abundance at most roost sites and at quantifying age ratios although at the large “megaroost” sites the volunteer effort did not provide representative data.

Depending on project support we aim to make these surveys a hybrid effort where professionals and specially trained volunteers survey the traditional megaroosts while volunteers cover the rest of the coast.

AGE RATIOS

~77% of surveyed pelicans were aged as “adult” or “immature” with overall percentages of 43.4% to 56.6% respectively. In the spring, % immatures increased northward while the opposite was true in the fall. See graph

SUMMARY

Coast-wide Results: 2016-19

Photo: S. Carpenter

For more information visit: https://audubonportland.org/get-involved/community-science/brown-pelican/
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