

2022 BPA/GPUD Avian Monitoring Report 05/16 – 05/22/2022

WEEKLY ACTIVITIES & UPCOMING EVENTS

ACTIVITIES	DATE
Survey of sites in Lake Lenore	05/17
Survey of sites in Potholes Reservoir	05/17
Survey of sites in McNary Pool above the Snake River confluence	05/17
Survey of sites in McNary NWR off the Columbia River	05/19
Survey of sites in McNary Pool below the Snake River confluence	05/20
UPCOMING EVENTS	
Survey of sites in Lake Lenore	05/23-05/29
Survey of sites in Banks Lake	05/23-05/29
Survey of site in Sprague Lake	05/23-05/29
Survey of sites in Potholes Reservoir	05/23-05/29
Survey of sites in McNary Pool below the Snake River confluence	05/23-05/29
Survey of Astoria-Megler Bridge	05/23-05/29

FIXED-WING AERIAL SURVEYS

Columbia River Estuary – East Sand Island to Troutdale Towers: Sites were surveyed on May 8.

Previous reports provided preliminary estimates of nesting adult Caspian terns from the May 8 aerial survey over Rice Island (n = 270 Caspian terns, see 05/02 - 05/08 weekly update for details) and East Sand Island (n = 894 Caspian terns, see 05/09 - 05/15 weekly update for details). Loafing Caspian terns were also observed at a parking lot at a former port dock in Astoria and at Tongue Point piers. Counts from these other locations will be conducted at a later date.

Details on provisional attended nest counts of double-crested cormorants from East Sand Island (n = 0) and the Astoria-Megler Bridge (n = 2,286) are provided in the 05/09 – 05/15 weekly report. Preliminary attended nest counts of other double-crested cormorant colonies in the Columbia River estuary are provided in *Table 1*.

Table 1. Preliminary attended nest counts of double-crested cormorants in the Columbia River estuary from aerial imagery and boat counts on May 8-9, 2022. Two observers conducted counts and values presented are the average count. [NA: Not Available – counts to be conducted at later date]

Double-crested Cormorant Nests	
Site	05/08 - 05/09
East Sand Island	0
Astoria-Megler Bridge	2,286
Channel Markers	NA
Lewis and Clark Bridge	169
Troutdale Towers	334
Total	2,789

Columbia River – Miller Rocks to Priest Rapids Pool and interior Washington: Sites were surveyed May 13-14

Aerial images are being processed from our fixed-wing survey of the Columbia River Plateau region from Miller Rocks to Priest Rapids Pool and interior sites in Washington within foraging range of the Columbia River. Preliminary counts of adult Caspian terns on May 13-14 are provided in *Table 2*.

Table 2. Preliminary adult Caspian tern counts from upriver and interior colony sites from fixed-wing aerial imagery on May 13-14, 2022. Two observers conducted counts and values presented are the average count.

Caspian Terns	
Site	05/13 - 05/14
Miller Rocks	0
Blalocks	0
Crescent ¹	208
Badger ¹	415
Hanford	13
Priest Rapids Pool	20
Potholes - Goose ¹	9
Lenore - Shoal ¹	93
Banks Lake	0
Sprague - Harper	0
Total	758

¹ Nesting confirmed

Lake Lenore: Sites were visited on May 17.

Shoal Island

14 nesting Caspian terns were observed on the island's interior from a boat survey (see *Figure 1* below). Aerial imagery continues to provide the most accurate individual and attended nest counts for this colony which is partially obstructed due to vegetation and rocks from the boat or shoreline. Preliminary estimates of 93 nesting Caspian tern adults were counted from fixed-wing aerial imagery of Shoal Island taken on May 14 (See *Table 1* above). A drone survey was also conducted over Shoal Island on May 17. Peak counts of adult Caspian terns and attended nests counts will be available once all aerial imagery has been processed.

~210 nesting California and ring-billed gulls were observed from a boat survey. Most gulls were nesting on the island's interior (see *Figure 1*). Final gull counts will be available once all aerial imagery has been processed.



Figure 1: Caspian terns, California gulls, and ring-billed gulls nesting on Shoal Island on May 17, 2022.

North Rock Island

No Caspian terns were observed.

126 double crested cormorants and 98 attended nests were observed on three ground-nesting colonies. This was the first week chicks were observed (ages 1-2 weeks, *Figure 2*). A drone survey was also conducted. Final individual and attended nest counts be available once imagery has been processed.

Nesting gulls were observed. Counts were unavailable this week.



Figure 2: Double-crested cormorant adults and chicks observed on North Rock on May 17, 2022.

Potholes Reservoir: Sites were visited on May 17.

Water levels in the reservoir were higher than any previous visit. Most of the passive dissuasion flagging on the shoreline was flooded (see [Figure 3](#)). To date, Potholes Reservoir elevation has risen 4.25 ft since colony monitoring began on April 8. Shoreline nesting habitat becomes flooded when reservoir elevation is above 1,044 ft (2.0 ft below full pool) as we observed during our visit.



Figure 3: Flooded dissuasion flagging at northeast main beach, Goose Island on May 17, 2022.

Goose Island

Caspian terns were counted in 11 different locations on Goose Island and its surrounding islets (See [Table 3](#) below). During our boat survey, 2 Caspian terns landed on the northwest main portion of Goose Island and 1 landed on the beach on southeast main portion of the island, although nesting was not confirmed in these sections from our boat survey. There were four Caspian terns loafing on the northwest rocks and 1 loafing on the south spit. Passive dissuasion flagging from the boat appears to be evenly spaced throughout the historic Caspian tern nesting areas.

A drone survey was also conducted. Counts will be available once imagery is processed. Aerial imagery continues to provide the most accurate individual and attended nest counts for this colony which is partially obstructed due to vegetation, topography, and rocks from the boat. Preliminary analysis of fixed-wing aerial imagery on May 14 confirmed nesting by Caspian terns on Goose Island (see [Table 2](#) above) with more details to be provided in next week's report as imagery is still being analyzed.

Table 3. Caspian tern counts by location at Goose Island from 4/12 – 5/17. [NA: Not Available]

Caspian terns					
LOCATION	04/12	04/18	04/27 ²	5/03	5/17
Northwest Main	0	0	0	0	2
Northeast Main	0	0	0	0	1
Southeast Main	0	0	0	0	0
South Spit	0	0	0	2	1
South Beach	0	0	0	0	0
Colony Area ¹	NA	NA	NA	NA	NA
Southwest Main	0	0	0	0	0
West Main	0	0	0	0	0
North Beach	0	0	0	0	0
East Rocks	0	0	0	4	0
Northeast Rocks	0	0	0	0	0
Northwest Rocks	0	0	0	0	4
Total	0	0	0	6	8

¹ Complete obstruction from boat vantage.

² Dissuasion activities occurred during counts.

~7,000 nesting gulls were observed on the island from a boat survey. California gull chicks were observed (ages 1-2 weeks, *Figure 4*).



Figure 4: California gull chicks at Goose Island on May 17, 2022.

Northern Potholes

No terns were observed. Most nesting and loafing habitat was flooded on the low-lying islands in North Potholes.

26 gulls were observed loafing at the former 2016 Caspian tern colony. No gulls or other piscivorous waterbirds were observed at other sites in North Potholes.

McNary Pool above the Snake River confluence: Sites were visited on May 17.

Hanford Reach – Island A

76 double crested cormorants and 41 attended nests with chicks (ages 1-3 weeks) were observed.

Hanford Reach – Island B

No piscivorous waterbirds were observed.

Hanford Reach – Unnamed Island (downstream of island B)

11 Caspian terns, 2 double-crested cormorants, and 2 American white pelicans were observed loafing on the island. Water levels have increased several feet since our last visit on May 3 (*Figure 5*). As of May 17, the south spit of this unnamed island where breeding behaviors of Caspian terns were observed on May 3 has now been flooded.

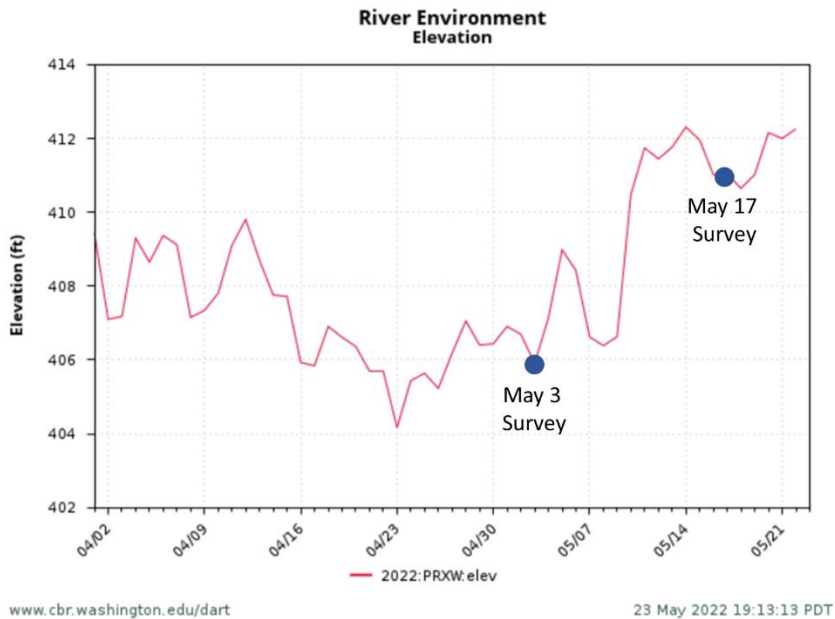


Figure 5: River elevation at Hanford Reach during two survey dates (May 3 and May 17).

Island 20

A drone survey was conducted over Island 20 on May 17. Counts will be available once imagery is processed.

McNary NWR off the Columbia River: Site was visited May 19.

Burbank Slough

106 loafing Caspian terns were observed. No other piscivorous waterbirds were observed.

McNary Pool below the Snake River confluence: Site was visited on May 20.

Foundation Island

~350 double-crested cormorants and ~270 attended nests with chicks (ages 3-5 weeks) were observed.

Badger Island

Several unknown disturbances flushed Caspian terns from the shoreline nesting colony during a drone survey. The drone or boat was not the cause for the disturbance. The loafing pelicans adjacent to the tern colony remained undisturbed. Once the tern colony flushed, numerous tern eggs were visible on the beach (*Figure 6*), although gull predation was not observed. No Caspian tern chicks were observed. Individual and attended nest counts will be conducted from drone imagery once they are available.

~90 nesting American white pelicans ~850 nesting gulls were observed from the boat.



Figure 6: Caspian tern eggs on northeast shoreline of the Badger Island colony during a boat survey following a disturbance event (top) and aerial view of the Caspian tern colony prior to a disturbance event (bottom) on May 20, 2022.

Crescent Island

Drone survey was conducted, and a raw image of the Caspian tern nesting colony is provided below (*Figure 7*). No individual and nest counts were available as imagery is still being processed.

~70 double crested cormorants and ~50 attended nests were observed from the boat survey.

Nesting gulls were observed, although counts were unavailable this week. Final counts of all nesting species will be available once all aerial imagery has been processed.



Figure 7: Caspian tern colony on Crescent Island on May 20, 2022.

PIT TAGGING OF STEELHEAD AT ROCK ISLAND DAM

Steelhead smolt tagging commenced at Rock Island Dam on April 8th. As of May 22, a total of 4,578 steelhead smolts (3,410 hatchery and 1,168 wild) have been captured, PIT-tagged, and released (*Figure 8*). Steelhead are selected for tagging at random, regardless of their size, condition, or rear-type (hatchery, wild) and are tagged in proportion to and in-concert with the run at-large (tagged and untagged) passing Rock Island Dam. Following the 2022 breeding season (August-September), we will scan bird colonies for smolt PIT tags to estimate predation rates on steelhead and on other groups of tagged fish.

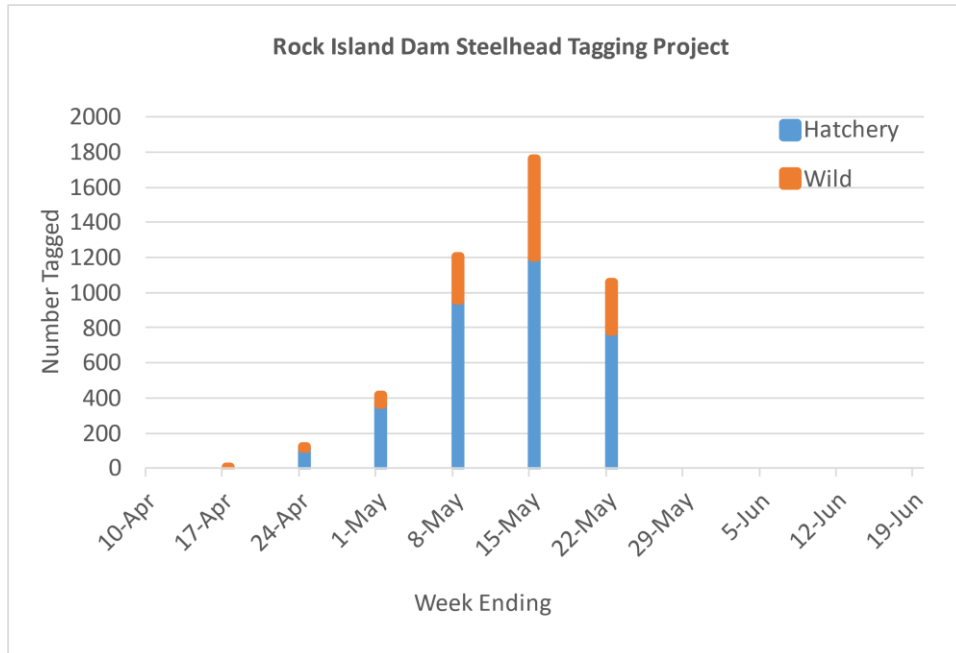


Figure 8. Steelhead smolt tagging at Rock Island Dam in 2022.