Saint George Reef Lighthouse Preservation Society
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Introduction:

This report is a summary of Saint George Reef Lighthouse Preservation Society activities at Northwest Seal Rock, California for the year 2024. Due to budget restraints, the society went out to the lighthouse only once during the 2024 year. A Labor Day tour was canceled due to transportation unavailability. We had a three day work party from Saturday, May 25th, 2024 toMonday, May 27th,2024. A total of three helicopter flights were utilized to transport crews and supplies to the lighthouse from Crescent City airport near Point Saint George.Two of these trips were conducted on Saturday, May 25th, 2024. One trip transported the crew, the second materials to perform repairs and indoor cleanup tasks. The flight on Monday transported the crew back to the airport.

Observations:

The lighthouse building occupies the vast majority of Northwest Seal Rock. The lighthouse stands on an irregular oval cassion 70' high and approximately 90' in diameter. The east side of the rock offers little area for pinnipeds to occupy.The north side of the rock is in shade the vast majority of the time due the height of the cassion, tower and north facing exposure;offering little sunlight for pinniped sunbathing. The west side of the rock enjoys afternoon sun. However, the west side is also exposed to the prevailing swells and the roughest wave activity. The vast majority of pinniped activity is on the southern exposure where both sunlight and more moderate seas are experienced. It is at this location where the pinniped observations have been historically conducted. The weather was clear and sunny for all three days of the work weekend which included the arrival and departure dates of the helicopter.

Helicopter Activity; Helicopter landing changes for arrival and departing flights:

Upon the advice of the Marine Mammal experts, the helicopter approached from the northwest side of Northwest Seal Rock. Landing in this way kept the helicopter out of view of the pinnipeds and muted the sound of the aircraft while arriving and departing. The departure pattern was also done this way for the same reason.
The observation of pinnipeds over the three day period showed a vast majority were young to older adult pinnipeds. The number was significantly less than the number counted Labor Day of 2023. As a result of the low numbers of pinnipeds, few animals were disturbed by our helicopter activities.

Explanations and comments regarding the data table, helicopter activities and restoration work.

1.The P.S.O. (protected species observer) confidence column (column 8) is listed from 1 to 3. 1 is the highest level of confidence, 3 the least level confidence

in observing the animals. Lower confidence would be due to weather such as fog, sun glare or foul weather.

2.All animal observations are done from the top of the cassion.(catch deck) At this location animals can be observed without disturbance to the animals or safety concerns to the observers.

3.All effects to the animals are observed from the cassion catch deck location when helicopters are landing or departing.

4.On column 3 of the data table, on the first arrival, pinnipeds were observed after the helicopter landed. Upon the advice of marine mammal experts, the south exposure was avoided altogether when landing.

5.On column 3, before the last departure of the helicopter, pinnipeds were observed for data information. The helicopter again avoided the south exposure of the rock.

6.The helicopter is not seen by the pinnipeds on the south end of the rock by leaving from the northwest side of the rock.

7.All restoration and maintenance activities are done inside the lighthouse and caisson. The 6 ½ thick granite walls of the lighthouse mute any noise our activities produce.

8.Corinne Heringer, Marine biologist from Cal Poly Tech Humboldt did all animal counts for our data table based on Jim Peterson's photographs taken from the cassion.

9. The animals were by and large indifferent to our activities on the rock. The adults in particular seemed not bothered by anything while sunning themselves.

Observer(s): Jim Peterson -Photographer, Corine Heringer - Marine Biologist Cal Poly Tech Humboldt
POS(s) Location: CASSION CATCH DECK
Time Begin Observations: 10:45 AM SATURDAY MAY 25TH, 2024
Time End Observations: 11:15 AM, MONDAY MAY 27TH, 2024
Activities Occurring during Monitoring (*circle all that apply*): helicopter flights ***maintenance*** tours

MARINE MAMMAL MONITORING												
Time (24-HR)	Event Code	PSO Initial	Activity at time of Sighting	Group Size (Max, Min . Best)	Group Composition (CSL, SSL, PHS, NFS)	# of animals by cohort (A,J,N) by Species	PSO Confidence (1-3)	Closest Point of Approach to Activity (feet)	Initial Observed Behavior	Response to Activity	Mitigations Implemented (if Applicable)	Comments
5/25. 10:45.	**-**	**J.P. J.Z.**	**After Arrival**	**64**	**64 SSL**	**20, 38, 6**	**1**	**200**	**REST**	**-**	**Flew in from N.W.**	**Animals observed after arrival**
5/25. 11:15	**B.C.**	**J.P. J.Z.**	**Depart**	**60**	**60 SSL**	**20, 38, 2**	**2**	**200**	**REST**	**4 pinnipeds flushed**	**Flew in from N.W.**	**Animals observed during departing flight.**
5/25. 12:00.	**-**	**J.P. J.Z.**	**Arrive**	**53**	**53 SSL**	**21, 20, 12**	**2**	**200**	**REST SWIM**	**-**	**Flew in from N.W.**	**Animals observed on arrival**
5/25. 13:15.	**B.C.**	**J.P. J.Z.**	**Depart**	**44**	**44 SSL**	**27, 16, 1**	**2**	**200**	**REST**	**5 pinnipeds flushed**	**Flew in from N.W.**	**Animals observed during departing**
5/27. 11:15		**J.P. J.Z.**	**Before Depart**	**28**	**28 SSL**	**14, 8, 6**	**2**	**200**	**REST**	**-**	**Flew in from N.W.**	**Animals observed before departure.**

WEATHER CONDITIONS								
date	Time (24-HR)	PSO Initial	Event Code	BSS	Wind Direction	Glare (%)	Fog	Visibility to Horizon (Miles)	Estimated Observable Distance
5/25/ 24.	**10:45**	**J.Z.**	**LH**	**WC**	**SSE**	**25**	**0**	**15 m**	**1 m**
5/27/ 24.	**11:15**	**J.Z.**	**LH**	**WC**	**SSE**	**15**	**0**	**15 m**	**1 m**

Species	Number of Takes
C SL	0
S SL	9
PH S	0
NFS	0

Weather conditions to be recorded at the beginning and end of the daily monitoring period. And at any substantial change in weather.
Event Codes: WA = Weather Assessment (to be recorded at beginning and end of daily monitoring periods).
WC = Weather Change (substantial change in weather)

* B.C. Behavioral Change - Flushed pinnipeds
* (CSL) California Sea Lion (SSL) Steller SeaLions
(PHL) Pacific Harbor Seals (NFS) Northern Fur Seals

Datasheet Codes:

Marine Mammal Monitoring:

Time: Time the animal was first sighted (24-hour, 00:00)

Event Code: NS = new sighting, BC = behavior change

PSO Initial: First and last initial of the observer that made the initial sighting

Activity at time of sighting: Type of activity during the observation (i.e. helicopter take-off, approach/landing, construction etc.)

Group Size: Estimation of minimum number of individuals, maximum number of individuals, and best estimation. (example: 10,15,12).

Group Composition: number of individuals within a group by species. (Example: a group with 6 CSLs, 11 SSL, 0 PHS, and 0 NFS will be written as 6,11,0,0.

# of individuals by cohort: number of individuals in each age cohort within a group, by species. (#of adults, #of juveniles, #of neonates). For example, there are 4 adult CSLs, 2 juvenile CSLs, 9 adult SSLs, and 2 juvenile CSLs hauled out in one group and no neonates. You can record this by writing: CSLs (4,2,0). SSLs (9,2,0).

PSO Confidence: level of confidence the PSO(s) have in their assessment of the information recorded.

Closest Point of Approach to Activity: distance from the nearest individual to the source of activity.

Initial Observed Activity: initial activity of the group i.e. feeding, resting, traveling etc.

Response to Activity: any response (or lack thereof) of individuals to the activity. Examples include: no response in behavioral state, changes in behavior (ceasing feeding, changing traveling direction, alerted to activity, movement, or flush. See Table from Proposed Rule pasted below)

Mitigations Implemented (if applicable): If a change in animal behavior resulting from any activity performed by the society occurs, what mitigation(s) were implemented? (i.e. calling personnel to move away from herd, cessation of current activity).

TABLE 2—DISTURBANCE SCALE OF PINNIPED RESPONSES TO IN-AIR SOURCES TO DETERMINE TAKE

Level	Type of response	Definition
1	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length.
2*	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees.
3*	Flush	All retreats (flushes) to the water.

*Only Levels 2 and 3 are considered take, whereas Level 1 is not.

If a take of any marine mammal occurs, it needs to be recorded immediately in the sighting form. In addition, use the small table to record the total number of takes by species once that page has been completed or at the end of the survey.

Weather Conditions:

Time: Time of the weather observation (24-hour, 00:00)

PSO Initial: First and last initial of observer that is recording the weather conditions

Event Code: WA = Weather Assessment (to be recorded at beginning and end of daily monitoring periods), WC = Weather Change (substantial change in weather)

BSS: beaufort sea state (refer to chart provided)

Wind Direction (direction in which the wind is blowing) examples include: NW, N, SE etc.

Swell Height: estimation of swell height in feet.

Glare: percent of survey area that contains glare from the sun.

Visibility to Horizon: distance to be seen by observers (miles).

Estimated Observable Distance: distance that animals can be observed at from the point of observation.