Oregon Black Oystercatcher Project
Nest monitoring protocol

GOAL: Find and monitor >25 Black Oystercatcher nests annually across Oregon coastal sites to estimate reproductive success (both hatching and fledging success). This information will be used as part of a region-wide (California and Oregon) assessment of oystercatcher population viability as well as estimate impacts from human disturbance, predation and other factors to inform conservation and management of this species.

IMPORTANT RESOURCES

- **Safety resources**: Your safety should always be prioritized above this project. Before visiting sites for nest searching or monitoring consult local forecasts for weather, tide and swell and use common sense when you arrive at your location if it doesn't look safe to avoid unnecessary risks. You can also consult project coordinators or volunteer mentors if you are unsure what potential safety concerns at your site might be.
- **Volunteer mentors**: Some experienced volunteers have agreed to be "**mentors**" for newer, less experienced volunteers. Mentors will invite newer volunteers to join them in the field for nest finding and monitoring where they can learn tips firsthand from experienced volunteers. Project coordinators will facilitate connecting volunteers for mentorship initially after which we will leave it to volunteers and mentors to coordinate with one another.
- **Data form and final on-line data entry**
  Attached at the end of this protocol is the data form (with a data entry example) you will use to monitor nests. We ask you to **only use 1 data form for each nest (including for separate renests)**. If more than 1 person is monitoring nests, we ask that 1 person be the "lead" monitor and be responsible for filling out the 1 data form. Blank data forms are available for download by **clicking here**. At the end of the season or after your nest is on longer active, we ask you to use this **on-line form linked here** to enter data from your nest. Please contact project coordinators if you need help filling out the on-line data form. It is difficult to edit the on-line data form once you've entered your nest data so **please wait until the nest is no longer active before completing the on-line form**.
- We will provide **maps of sites with historic nest locations** indicated (as an aid to help nest finding)
- You can view a video recording of an oystercatcher nest monitor training available **at this webpage**.

NEST FINDING AND CONFIRMATION

Oystercatchers do not build true nests but they will toss rocks or small bits of shell over their shoulder or appear to rearrange the substrate below them (with bill down). Birds may also press their breast down, sit, or scrape (kicking their feet backwards with breast down). Often both members of the pair will take turns "trying out" a potential nest location. Because oystercatchers don't build an easily visible nest and from your vantage point you might not be able to see the nest contents, it is important to take steps to confirm that you have actually found a nest. Here are some good **tips for finding and/or confirming presence of active nests**:

- A bird sitting in the exact same location (for at least 15 minutes) on 2 or more visits.
- A "**mate switch**" is observed: one bird gets up from sitting and another bird (you see both birds together) sits in the exact same place.
- A single bird standing near the top of a rock may be a non-incubating member of a pair "standing watch" near its incubating mate.
- Witnessing a copulation or attempted copulation.

  Please take detailed notes and if possible take a reference picture to help us confirm a nest location. Also, feel free to get in touch with project coordinators if you would like help confirming a nest location.

  Black Oystercatchers have "**high nest site fidelity**" meaning they typically nest in the same general location from year to year – sometimes they'll even nest in the exact same location. Experienced volunteers that have monitored nests in previous years target these areas to find nests early in the season (typically in May although this doesn't include renesting attempts). Provided **maps of coastal sites that have historic nest locations indicated** can also be used as a tool to target nest searching efforts.

NEST MONITORING

- Once a nest has been located, try to visit it **at least weekly** to monitor activity. We realize this can be a big commitment for some volunteers so we can work with you to coordinate teams of 2 or more volunteers to monitor the same nest(s) and spread out monitoring visits. This will take good coordination among volunteers on these teams. We can also work around brief absences, but please let project coordinators know at least a week in advance when you will not be able to visit the site/nest that you monitor. Sometimes fog or stormy weather can interfere with nest monitoring so it could take multiple visits to a nest in one week to actually successfully complete a monitoring visit.
- **Incubation**: Since **both male and female oystercatchers incubate**, you will often find a bird on the nest. If you are certain that you have a nest (i.e., you have seen eggs, a mate switch, a sitting bird fly off then return and sit in the exact same location), and you know approximately when eggs were laid, then simply seeing an adult on the nest is confirmation that it is active. If you are watching from a distance, you may conduct a behavioral observation to provide data about behavior and incubation time (see codes on data form below). However, in many cases your visit can be brief and anytime you believe that there is any chance you are disturbing birds, please leave immediately or back up far enough away to confirm the adult has returned. Black Oystercatchers **incubate eggs for 26-32 days**. If you know the approximate date the nest was initiated (saw nest building or copulation one week and saw an egg on the following visit), you can calculate the approximate date the nest might hatch and begin watching for chicks a little before that date. However, since adults **brood** young chicks (sit on top of chicks to keep them warm) almost continuously, you will need to watch the adults carefully to determine whether the adult is still sitting on eggs or brooding young.
- **Hatching**: After a nest has hatched you may catch glimpses of the downy chicks poking their heads out from under an adult's wing or body particularly when the second adult arrives with food. These food deliveries are often quite frequent (especially at low tide) and differ from the behavior of adults with eggs.

a. **How long should I stay at the nest**? Please watch the nest for **30 minutes or until eggs or chicks are seen** if you do not see an adult on the nest and are unable to see eggs or if it appears that the nest is being incubated but you do not have any idea when eggs were laid. As stated previously, if you know approximate nest age and you see an adult incubating your visit can be brief.
b. **Successful hatch = at least one chick hatches.**

- **Fledging Success**
  a. Black Oystercatchers will lay **1-3 eggs but usually only raise 1-2 chicks to fledging**. After hatching, chicks will be brooded almost continuously for the first couple of days. Chicks are brooded at least intermittently for the first **23 days** and less often as they mature. When chicks are not being brooded they are almost always attended by at least one parent and will often be within a few feet of a parent (but are well camouflaged and can be difficult to see).
  b. To determine fledging success, weekly visits to sites will be necessary until chicks are **capable of flight at approximately 38- 40 days old**. If the nest was located on a narrow ledge, adult and chicks may be seen very close to the nest site. However, chicks are capable of walking almost immediately after hatching and become very good climbers at about 2-3 weeks. So in situations where a nest was located on a broad flat rock, cluster of low rocks, or gravel, it is likely that parents and chicks will move from the nest spot. In these situations you may need to watch the general area in which nest was located, until a parent is spotted. A parent brooding chicks will appear to be sitting. Occasionally both parents will brood simultaneously. You will want to watch brooding parent(s) for about **30 minutes** or until you are confident that you have counted all chicks.
  c. **Tracking mobile chicks**: As chicks mature, they may venture further away so you may need to spend more time trying to locate and count all chicks around the parents. If you cannot spot brooding adult or chicks, look for adult foraging near the nest location (try to visit near low tide). Watch any foraging adults carefully. An adult with one or more chicks will often take breaks from foraging and fly off to carry food to their chicks. If you are watching carefully with a spotting scope or binoculars, you will likely be able to see food in the bill of the oystercatcher as it flies off. However, even if you are not able to see food in the bill, you may see a foraging adult quietly fly off, return to forage, and then fly off again in the same direction, delivering small pieces of food to its chicks. Try to follow the oystercatcher visually and look for a second adult and chicks in the location where the first adult lands. Alternatively, if you see one oystercatcher or a pair of oystercatchers foraging continuously and consuming multiple prey items (watch for swallowing), it is not likely that they have chicks and hence, may indicate that the brood has failed.
  d. **Successful fledging = at least 1 chick reared to an age when it is capable of flight (38-40 days old)**.

AVOID DISTURBANCE: When monitoring nests and broods, our highest priority is to **minimize disturbance**. Watch from as great a distance as possible. If there is any chance your presence may influence bird behavior, limit the time you spend at the site, and do not visit the site more than twice a week, however if it is a distant nest viewed with a spotting scope, feel free to visit more frequently and make notes about behavior. If a bird is flying or calling or is actively responding to your presence, back away or leave the site if necessary.

WHAT DO YOU DO IF YOU THINK A NEST OR BROOD HAS FAILED?

It is possible that you may return to a site and see parents but find that they do not seem to be incubating and/or do not see any chicks. Please **conduct at least one (preferably a few) additional survey within a week or two after not seeing nest/chicks** to confirm that the nest/brood failed.

From our experience in previous years, it is fairly common for chicks to be "missing" at about three weeks but then reappear shortly before fledging, at about five weeks. If you suspect that there has been a predation event or failure during this time period, please continue visiting and checking for chicks. In particular, try to

visit the site at low tide and watch any foraging adults to see if they deliver food. If you witness an adult flying off with food in its bill it is feeding at least one chick. Do not despair if you cannot find the chick(s); food carrying is confirmation that the chicks have not all failed and you may well be able to spot the chick(s) and count them on the following visit.

As chicks mature they will become similar in size and appearance to adults so pay careful attention to their bills. A chick's bill will not be as long as an adult bill and they will not be bright red. Bill will be **entirely dark gray** at first and will then slowly start turning reddish at the base. Eyes will also be duller than adults.

RENESTING: If a nest fails early in the season (May or June), the adults will likely re-nest in the same location or nearby within 1-2 weeks. It would be greatly appreciated if you monitor these replacement nests or make project coordinators aware of renesting so we can assign other volunteers to monitor them. A separate data form and corresponding separate on-line data entry should be made for each nesting attempt (although the Pair ID should be kept the same).

OUTREACH: for each nest visit, record how many members of the public you provided direct outreach to.

VOLUNTEER QUALIFICATIONS

- Surveyors need to have patience and good attention to detail.
- In some areas it may be necessary to walk up to a few miles on bumpy terrain for nest monitoring. Surveyors should anticipate traveling on surfaces from flat and inclined sand to rocky beaches and well-maintained to steep, overgrown and sometimes slippery trails. Some areas may include creek crossings.

WHAT TO BRING

- Binoculars (preferably with magnification of 8X or higher)
- Spotting Scope/tripod (at least 20X needed at most sites; if you do not own a scope contact the survey coordinator and we will try to provide you with one)
- Waterproof field notebook or clipboard and data sheets
- Site map (historic nest locations are indicated on most maps) & local tide table
- Pen or pencil
- Timepiece
- Appropriate clothing and footwear for changing or adverse weather conditions
- Optional items: Global positioning devise (GPS unit); digital camera; walking staff

DATA FORM INSTRUCTIONS:

When you find a nest please fill out the first page of the **Nest Monitoring Data Form** (attached below), in addition to the first line of second page. On subsequent visits to check nests and/or broods, it will **only be necessary to fill out a single line of information on the second (and third page if necessary)** of the data sheet. The last page of this form includes a **key to the codes for data collection**. Please contact a project coordinator if you are uncertain about what you are seeing or whether a failure has occurred. Also, feel free to attach additional sheets with comments, nest location or site access notes, or interesting observations including breeding behavior, human disturbance, predators in the area, among others. Remember, after the nest is no longer active, then enter your data to the on-line survey.

THANKS SO MUCH FOR ALL YOUR HELP!

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"Mock" nest data form example 1

EXAMPLE #1

Oregon Black Oystercatcher Project
Nest Monitoring Data Form (JRL)

Year: 2020 **Name & email of primary nest monitor:** Joe Liebezeit, jliebezeit@audubonportland.org **Page:** 1 of 2

Pair ID: 20JRL01 *(Pair ID = last 2 #s of year, your initials, and nest #; e.g. if Jane Doe 2 nests in 2020, the Pair ID will be 20JAD01 & 20JAD02)* **Nest Attempt#:** 1

County: Coos

Locale (route map name): BANDON BEACH 1

Latitude: *(in dec.degrees)* 43.117997

Longitude: *(in dec.degrees)* 124.437348

Observation point (where you monitored nest from): COQUILLE PT.

Nest height above mean high tide (meters): 8

Mainland site, offshore rock, pier, other: OFFSHORE ROCK (TABLE ROCK)

If offshore:
- *Low tide access?* NO
- *Meters from coast?* 80
- *Rock height (meters):* 12

End of season preliminary summary:
- *Total # surveys:* 13
- *Total survey hours:* 13.45
- *Total nest attempts:* 1
- *Total chicks fledged:* 2
- *Notes:*

After this nest is no longer active, complete the on-line data survey available here:
https://survey123.arcgis.com/share/e2240c2e416743b683aea4883e475d61
Scan & send this data form to asopcoastalbirds@gmail.com or mail to P.O. Box 534, Manzanita OR. 97130

General survey notes: *please include weather, observer, photos, collections or banding, other species present, and any unusual conditions .*

Date	*Observer*	*Visit summary*
5/16	JRL	PARTLY CLOUDY, Wind<5mph, suspect Nest present → adult sitting in 1 place ~20min, left & came back
5/20	JRL	overcast, wind~10mph, saw eggs + mate switch!, Gull + 3rd BLOY in area but incubating
		BLOY NOT disturbed.
5/27	FB	BLOY ON Nest entire time, 2 adults present, weather = light Fog, NO wind
6/5	JRL	MATE SWITCH!, Saw 3 eggs, weather: often light drizzle, Peregrine Fly over
6/11	JRL	Incubating Adult
6/19	FB	" " ; River otter near nest, adult flushed but then returned, other BLOY chased otter away
6/24	JRL	Saw chicks, Adult Brooding in Nest
7/3	JRL	Adults seen but could NOT see chicks; Adult Flyg behind Rock w/ Food + leave w/o food Peregr in are
7/15	JRL	1 Adult seen but NO chicks :(; SUNNY, 15MPH wind
7/22	JRL	Adult Feeding Chicks!
7/29	FB	" " " ; Western Gulls on Rock but NOT interested not
8/5	JRL	1 Chick Flew short distance. → Fledge!
8/14	JRL	No chicks or adults on island but Family Seen on shore

FB = FRANCES Buchanan

Mock nest data form example 1 (page2)

Oregon Black Oystercatcher Project
Nest Monitoring Data Form

Pair ID: 20JRL01 **Attempt #:** 1

Survey Date	Survey Time and Effort			Nest Stage	Adults	Eggs	Chicks	Impacts (Type)	Impacts (Response)	Survey Quality
yyyy mm dd	Start Time	End Time	Total Hours	B,I,Y,E,U	B,I,C,T,FO,D,IE, V	P,S,W,K,H,PIP,M, R,COLL	P,S,NH,SD,M,NFL, FLY,CARC,FO,U	None or See Codes	None or See Codes	P,G,E
2020/05/16	0815	0930	1.25	I	# Adults: 2 Behavior: I,T,FO,RP	# Eggs: 3S Stage: ?/	# Chicks: Stage:	0	0	G
2020/05/20	1005	1115	1.20	I	# Adults: 2 Behavior: I,IE,FO	# Eggs: 2P Stage: W	# Chicks: Stage:	1,6	1	E
2020/05/27	7:45	8:15	0.5	I	# Adults: 2 Behavior: I, FO	# Eggs: 2+ P Stage: W	# Chicks: Stage:	0	0	E
2020/06/05	1100	1145	0.75	I	# Adults: 2 Behavior: IE, I, RP	# Eggs: 3 P Stage: W	# Chicks: Stage:	7	0	E
2020/06/11	915	945	0.5	I	# Adults: 1 Behavior: I	# Eggs: 3S Stage: W	# Chicks: Stage:	0	0	E
2020/06/19	800	1345	0.75	I	# Adults: 2 Behavior: I, FO, T	# Eggs: 3P Stage: W	# Chicks: Stage:	3	2	E
2020/06/24	1000	1130	1.5	Y	# Adults: 2 Behavior: V	# Eggs: Stage:	# Chicks: P 3 Stage: NH	0	0	E
2020/07/03	0830	1000	1.5	Y	# Adults: 2 Behavior: V, T	# Eggs: Stage:	# Chicks: S 3 Stage: SD	7	0	G
2020/07/15	1200	12:45	0.75	U	# Adults: 1 Behavior: FO	# Eggs: Stage:	# Chicks: S 3 Stage: U	0	0	P
2020/07/22	0800	0850	~1hr	Y	# Adults: 2 Behavior: V, FO	# Eggs: Stage:	# Chicks: 3 P Stage: M	0	0	E
2020/07/29	1000	1115	1.25	Y	# Adults: 2 Behavior: V, FO	# Eggs: Stage:	# Chicks: 2P Stage: NFL	6	0	E
2020/08/5	900	1030	1.5	Y	# Adults: 2 Behavior: FO, V	# Eggs: Stage:	# Chicks: 2P Stage: FLY	0	0	E
2020/08/14	1000	1100	1	FLGE	# Adults: 2 Behavior: FO	# Eggs: Stage:	# Chicks: 2P Stage: FLY	0	0	G

Mock nest data form example 2

EXAMPLE #2

Oregon Black Oystercatcher Project
Nest Monitoring Data Form

Year: 2020 **Name & email of primary nest monitor:** Joe Liebezeit, jliebezeit@audubonportland.org **Page:** 1 of 2

Pair ID: 20JRL02 *(Pair ID = last 2 #s of year, your initials, and nest #; e.g. if Jane Doe 2 nests in 2020, the Pair ID will be 20JAD01 & 20JAD02)* **Nest Attempt#:** 1

County: Clatsop

Locale (route map name): CANNON BEACH

Latitude: *(in dec.degrees)* 45.884330

Longitude: *(in dec.degrees)* 123.967322

Observation point (where you monitored nest from): BEACH

Nest height above mean high tide (meters): 9

Mainland site, offshore rock, pier, other: OFFSHORE ROCK

If offshore:
- *Low tide access?* Yes
- *Meters from coast?* 10
- *Rock height (meters):* 15

End of season preliminary summary:
- *Total # surveys:* 6
- *Total survey hours:* 4
- *Total nest attempts:* 2
- *Total chicks fledged:* 1
- *Notes:* 2nd nest attempt of 20JRL03 was successful

After this nest is no longer active, complete the on-line data survey available here:
https://survey123.arcgis.com/share/e22d0c2c4167d3b683aca4883e475d61
Scan & send this data form to asopcoastalbirds@gmail.com or mail to P.O. Box 534, Manzanita OR. 97130

General survey notes: *please include weather, observer, photos, collections or banding, other species present, and any unusual conditions .*

Date	Observer	Visit summary
5/20	JRL	Nest building? ; Clear skies, wind <10mph, 1 bird tossing Rock pieces & looked to settle in 1 spot, other BLO foraging nearby
5/27	JRL	Bird sitting for 1 place for 10min when arrived, then Mate switch occured confirming incubation
		could not see eggs though; Person+dog walked nearby + alerted incubating bird
6/3	JRL	Adult incubating entire time, saw 2nd bird foraging ~30m away
6/10	JRL	Both Adults Foraging but NO one ON Nest. No longer active?
6/15	JRL	Still no Activity at nest site; saw 1 adult sitting at another location -
		New Nest site? STARTING New Nest Form
6/20	JRL	Still no activity @ original nest site - confirming as failed during incubation stage
		New nest attempt started. ~30m away.

Mock nest data form example 2 (page2)

Oregon Black Oystercatcher Project
Nest Monitoring Data Form

Pair ID: 20JRL02 **Attempt #:** 1

Survey Date	Survey Time and Effort			Nest Stage	Adults	Eggs	Chicks	Impacts (Type)	Impacts (Response)	Survey Quality
yyyy mm dd	Start Time	End Time	Total Hours	B,I,Y,E,U	B,I,C,T,FO,D,IE, V	P,S,W,K,H,PIP,M, R,COLL	P,S,NH,SD,M,NFL, FLY,CARC,FO,U	None or See Codes	None or See Codes	P,G,E
2020/05/20	9:15	10:05	~.75	B	# Adults: 2 Behavior: B, C, FO	# Eggs: NONE Stage:	# Chicks: Stage:	0	0	G
2020/05/27	0740	0830	~0.75	I	# Adults: 2 Behavior: I, IE	# Eggs: S? Stage: W?	# Chicks: Stage:	11, 15	1	E
2020/06/3	1005	1035	0.50	I	# Adults: 2 Behavior: I, FO	# Eggs: S? Stage: W?	# Chicks: Stage:	0	0	G
2020/06/10	0815	0900	.75	E?	# Adults: 2 Behavior: FO	# Eggs: 0? Stage:	# Chicks: Stage:	0	0	G
2020/06/15	1000	1045	0.75	E	# Adults: 2 Behavior: FO	# Eggs: 0 Stage:	# Chicks: Stage:	0	0	E
2020/06/20	0900	1000	1.0	E	# Adults: 2 Behavior: Nesty Nearby	# Eggs: 0 Stage:	# Chicks: Stage:	0	0	E
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			
					# Adults: Behavior:	# Eggs: Stage:	# Chicks: Stage:			