

TACTIC: COLLECTION OF SMALL CARCASSES AND DOCUMENTATION OF LARGE CARCASSES

Objective and Strategy

- Remove oiled and unoiled carcasses from the environment to prevent secondary contamination of scavengers.
- Document carcass species, locations, and other information to evaluate the impact of the spill on affected populations and to assess overall impact of a spill event on the environment.

Tactic Description

- Carcasses that are small enough to be removed from the environment (e.g., fish, shellfish, small mammals, and birds) need to be documented, collected, and transferred or disposed of according to protocol. Often, carcasses will be delivered to a wildlife agency representative at a single location – the Evidence Custodian at the morgue facility.
- Carcasses that are too large to remove from the environment need to be documented and perhaps sampled. Sample collection from large carcasses is not included in this tactic.
 - For additional information about large carcass documentation, please refer to the training video for this tactic, *Carcass Collection and Documentation during an Oil Spill Response*, available on the ARRT [Wildlife Protection Guidelines](#) webpage.
 - For large carcass sampling, see “Dead Marine Mammal Recovery and Field Processing Procedures” in the NMFS *Cook Inlet and Kodiak Marine Mammal Disaster Response Guidelines*, available from the [NOAA Institutional Repository](#).

Safety Considerations

- Bear guards, or appropriate bear safety equipment, should be used where bears may be present, or as outlined in the incident-specific Safety Plan.
- Slips, trips, and falls are a particular hazard for carcass collection because people may be focused on searching for carcasses while walking in rough, slippery terrain.
- Avoid steep and unstable surfaces (cliffs, mud, exposed slopes, shoreline rocks with surf, etc.).
- Primary PPE for carcass collection are nitrile gloves. Other PPE (e.g., oil-resistant outerwear such as Tyvek coveralls) will be outlined in the incident-specific Safety Plan, and is dependent on the level of carcass oiling, amount of oil in the environment, and weather.

Operational Considerations

Operating Environments, Geographic Considerations, and Access

- Carcass collection may be performed in all environments where a spill can occur, including:
 - On land;
 - Lakes, streams, and rivers and associated shorelines;
 - Marine shorelines, marine nearshore, and open water.
- Responders may search for carcasses on foot or by vehicle (snow machine, truck, ATV, boat, aircraft) depending on the size, location, and complexity of the spill; terrain; and land ownership/access.
- While carcass collection and disposition procedures will follow this tactic, how those carcasses are found – carcass surveys – may vary depending on the size, location, and complexity of the spill; survey protocols may be incident-specific.

Species Type and Life Stage

- **Birds and small mammals:** Collect partial carcasses and intact, whole birds and small mammals, regardless of degree of scavenging, disintegration, or decomposition. Do not collect single feathers, or feather or fur clumps, that are not attached to skin or other body part. Collect disarticulated carcasses (those in separate pieces) by bagging and tagging all pieces that likely came from the same animal as one whole animal.
- **Large mammals (adult bears, whales, seals, sea lions, walruses, and some ungulates):** Response personnel should notify Unified Command immediately upon finding carcasses that are too large to be collected. These must be documented by the carcass collection team and may subsequently be sampled by separate agency or authorized personnel. Carcasses of young large mammals such as cubs or calves should be collected when possible. Collect disarticulated carcasses (those in separate pieces) by bagging and tagging all pieces that likely came from the same animal as one whole animal.
- **Other aquatic species (fish, shellfish, and invertebrates):** Collect partial and intact whole carcasses, regardless of degree of scavenging, disintegration, or decomposition. If large numbers of disarticulated or very small carcasses are found, incident-specific protocols may be developed to facilitate their collection.
- **Oily waste:** Oiled carcasses are considered oily waste. Any oiled carcasses, such as large mammals or a large fish kill, that are not transported to the Evidence Custodian or morgue must be documented and disposed of according to the incident Waste Management Plan, after approval by wildlife agencies.

Communications

- Ensure all forms and tags are accurate and complete at the end of each shift.
- Follow incident-specific procedures to submit forms to USFWS, NMFS, ADF&G, and the Documentation Unit. Ensure tags will stay with the carcasses.
- Follow incident-specific reporting thresholds (e.g., report any and all protected species) to Unified Command and wildlife agencies.
- All responders should immediately report observations of carcasses through their supervisor to Unified Command. Reports should include (at a minimum):
 1. Observer name, time, date, and location (latitude/longitude and location description);
 2. Species or species group and numbers of each species observed;
 3. Estimated degree of oiling and location of carcass relative to known oiled area;
 4. Photographs, if possible.

Equipment, Vehicles or Vessels, and Personnel for Carcass Collection Tactic

- See [Table 9-8](#) (begins on next page).

Table 9-8: Equipment, Vehicles or Vessels, and Personnel for Carcass Collection Tactic.

EQUIPMENT	QUANTITY	FUNCTION/NOTES
Personal Protective Equipment (PPE)	As needed	Ensure safety of responders
Bear pepper spray	As needed	As outlined in incident-specific Safety Plan
GPS Unit	1	Document locations
Camera	1	Documentation
Photo scale	1	Documentation
Binoculars	1 per person or team	Search for carcasses; situational awareness
Extra batteries for GPS unit and camera	1 set each	Avoid electronics down time
Carcass Collection Kit (for 10 small birds or mammals, 1-3 eagles, 1-3 sea otters)	1 or more	Enable the safe and proper collection and documentation of carcasses.
Large/XL Cooler or tote	1	Wheeled if possible
Paperwork:		
Incident-specific maps or shoreline segment maps	1 set	
Carcass Chain of Custody (CoC) Tags (white)	15	
Pre-printed Individual Carcass Identification Tags (yellow)	15	If pre-printed tags are unavailable, use water-resistant labels with: date, time, location, collector's name, and an assigned sequential carcass ID number.
Carcass Collection Forms	5	Print forms on water-resistant (e.g., Rite-in-the-Rain®) paper.
Ziploc® bags for Carcass Collection Forms	5	
Carcass Collection Protocol	1	Print on water-resistant (e.g., Rite-in-the-Rain®) paper.
Transport Log for Carcasses	10	For use by Transporter – may be with them. Print on water-resistant (e.g., Rite-in-the-Rain®) paper.
Pencil and permanent pen (e.g., Sharpie®)	5 each	
Clipboard	1	
Printed permits and authorizations	1 or more	May be from multiple agencies (USFWS, NMFS, and ADF&G) and landowners.
Water resistant field notebook	1 per person	
Collection supplies:		
Brown (kraft) paper bags, small	10	Lunch bags
Brown (kraft) paper bags, large	6	Leaf or lawn bags
Non-coated (e.g., kraft) roll of paper	1	If carcasses larger than will fit in a large paper bag are anticipated.

EQUIPMENT		QUANTITY	FUNCTION/NOTES
Plastic bags, small (e.g., gallon size Ziplocs®)		10	
Plastic bags, large (e.g., kitchen trash bags, compactor bags)		10	
Twist ties, zip-ties, or wire ties		1 packet	
Nitrile gloves, one-size-fits-all		25 pairs	
Field scissors or knife		1	
Flagging		1 roll	
Ice packs		4	If available.
VESSEL/VEHICLES		QUANTITY	FUNCTION/NOTES
Various depending on spill environment, size, and complexity. May include trucks, ATVs, boats, or aircraft, etc.		Varies	Enable carcass collectors to search, locate, retrieve, and transport carcasses to central location (morgue).
PERSONNEL	TACTIC-SPECIFIC TRAINING	QUANTITY	FUNCTION/NOTES
Carcass Collector	Carcass collection training	1	Supervises field operations and physically handles and bags carcasses.
Data Recorder	Carcass collection training	1	Completes forms, photo-documentation, records GPS coordinates (Lat/Long), and performs other administrative duties.
Transporter	Transporter training	Various, depending on complexity of incident	Transfers carcasses from field collection location to central location (morgue).
Evidence Custodian/ Designated Agency Personnel		1 or more	Receives carcasses and documentation from field teams; often are USFWS or NMFS law enforcement personnel.

Notes:

Implementation

1) Preparation:

- Obtain PPE, equipment, and printed copy of Permits and Authorizations.
- Ensure activities can be safely conducted.
- Determine if Bear Guards or bear safety equipment are needed for shoreline or inland activities in accordance with the incident-specific Safety Plan.

2) Field Implementation (see also [Figure 9-3](#): Carcass Collection Job Aid For Small Carcasses)

- RECORDER:** Complete top of Carcass Collection Form, following instructions on back of form.
 - Fill out the shoreline search section of the form only if instructed to do so, using incident-specific protocols.
 - Take photos as needed to document carcasses in the field.
- COLLECTOR:** Wearing new nitrile gloves, place individual carcass in paper bag, then in clear plastic bag. For larger carcasses, wrap in uncoated (e.g., kraft) paper or aluminum foil and then place in larger plastic bags.
 - Do NOT put carcasses directly in plastic bags.
 - Do NOT place nitrile gloves in bag with carcasses.
- RECORDER:** Complete a yellow Individual Carcass Identification Tag for each carcass.
 - The Carcass Chain of Custody (CoC) Tag # is the Batch Tag No. on the Carcass Chain of Custody (CoC) Tag:

CARCASS CHAIN OF CUSTODY TAG	
COLLECTION DATE: (MM/DD/YYYY)	BATCH TAG NO. 1060

INDIVIDUAL CARCASS IDENTIFICATION TAG		
CARCASS CHAIN OF CUSTODY (CoC) TAG #	CARCASS ID #	DATE (MM/DD/YYYY)
1060		
LOCATION (Lat/Long)	COLLECTION TEAM LEADER (Printed Name)	

- The Carcass ID # on Individual Carcass Identification Tag is the pre-printed number from the next blank line on the Carcass Collection Form:

INDIVIDUAL CARCASS IDENTIFICATION TAG		
CARCASS CHAIN OF CUSTODY (CoC) TAG #	CARCASS ID #	DATE (MM/DD/YYYY)
1060	01	
LOCATION (Lat/Long)	COLLECTION TEAM LEADER (Printed Name)	

Carcass Collection Form		
Carcass ID #	Latitude (decimal degrees)	Longitude (decimal degrees)
01		
02		

- Individual Carcass Identification Tags may be a color other than yellow. If pre-printed Individual Carcass Identification Tags are not available, use waterproof paper to create a tag and write the date, time, location (Lat/Long), and Collector's Name on it.

- d) **COLLECTOR:** Tie completed Individual Carcass Identification Tags to the outside of each plastic carcass bag.
- e) **RECORDER:** On the Individual Carcass Log section of the Carcass Collection Form, complete the line corresponding to the selected Carcass ID No. (Lat/Long, Species, Condition, etc.):

INDIVIDUAL CARCASS LOG							
Carcass ID #	Latitude (decimal degrees)	Longitude (decimal degrees)	Species	Condition FRESH, DEG, MUM	Oiling NO, LT, MOD, HV, UNK	Photo #	Comments
01							
02							
03							

- f) **COLLECTOR:** Place bagged and tagged carcasses inside of larger plastic "batch" bag.
- A "batch" is the number of animals that fit inside a large plastic bag and will vary from 1 to 10 carcasses depending on species size and number of carcasses.
- g) **RECORDER AND COLLECTOR:** Repeat Steps b-f until the batch is complete.
- Start a new "batch" when: 1) Ten carcasses have been collected (and Carcass Collection Form is complete); 2) Batch bag is full; or 3) Moving to a new area.
- h) **RECORDER:** Place completed Carcass Collection Form in a re-sealable, waterproof (e.g., Ziploc®) bag. Place this bag inside the batch bag but outside of any individual carcass bags.
- i) **RECORDER:** Complete and sign a Carcass Chain of Custody (CoC) Tag for each batch of carcasses.
- j) **COLLECTOR:** Tie completed, signed Carcass Chain of Custody (CoC) Tag to outside of batch bag.
- k) **RECORDER:** For carcasses too large to collect, take photographs and write in field notebook:
- Personnel name(s), time, date, and location (Lat/Long and description);
 - Species or species group and numbers of each species observed;
 - Estimated degree of oiling and location of carcass relative to known oiled area;
 - Number and location of photographs.

3) Transport and Storage

- a) **RECORDER AND TRANSPORTER:** Sign Carcass Chain of Custody (CoC) Tag when carcasses are transferred.
- b) **TRANSPORTER:** Complete Transport Log for Carcasses following instructions on back of form.
- c) **TRANSPORTER:** Keep carcasses as cool as possible.
- d) **TRANSPORTER:** Deliver carcasses to additional TRANSPORTER if needed (i.e., from vessel to vehicle) or to agency-designated Evidence Custodian at morgue or designated transfer point.
- The Carcass Chain of Custody (CoC) Tag is signed by both TRANSPORTERS each time the carcasses change possession.

- The Evidence Custodian will sign the Carcass Chain of Custody (CoC) Tag, and inspect and catalogue all collected carcasses, then ensure storage until plans are made for final disposal.

4) Deliverables

- ☐ Correctly bagged carcasses and batches of carcasses.
- ☐ Completed Individual Carcass Identification Tag for each carcass.
- ☐ Completed Carcass Chain of Custody (CoC) Tag for each “batch” of 1-10 carcasses.
- ☐ Completed Carcass Collection Form for each “batch” of 1-10 carcasses.
- ☐ Completed Transport Log for Carcasses for each shift and mode of transportation.
- ☐ Copies of field notebooks and photographs for each shift.
- ☐ SD cards, cameras, and GPS units turned in or data downloaded.

Notes:

Additional Resources for Small Carcass Collection and Large Carcass Documentation and Sampling

- [Figure 9-3: Carcass Collection Job Aid for Small Carcasses](#) (full-page version available on the ADEC Area Plan [References and Tools](#) webpage).
- See the video tutorial of this tactic for demonstrations of small carcass collection and large carcass documentation.
- Equipment lists for sampling and collection of large carcasses, especially marine mammals, can be found in “Appendix 5: Equipment Lists Per Response Activity” in the *NMFS Cook Inlet and Kodiak Marine Mammal Disaster Response Guidelines*, the [NOAA Institutional Repository](#).

Related Tactics

- Wildlife Reconnaissance (Recon; [Section 9740.3.2](#))

References

- National Marine Fisheries Service. 2017. NMFS Arctic Marine Mammal Disaster Response Guidelines. U.S. Dep. Commerce, NOAA Tech. Memo. NMFS-F/AKR-16. 81 p. doi: 10.7289/V5/TM-F/AKR-16. Available from the [NOAA Institutional Repository](#).

- National Marine Fisheries Service. 2019. Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines. NOAA Fisheries Guidance Document. pp 80 + appendices. Available from the [NOAA Institutional Repository](#).
- Ziccardi, M.H., S.M. Wilkin, T.K. Rowles, and S. Johnson. 2015. Pinniped and Cetacean Oil Spill Response Guidelines. U.S. Dept. of Commerce, NOAA. NOAA Technical Memorandum NMFS - OPR - 52, 138 p. Available from the [NOAA Institutional Repository](#).

Forms (on following pages)

- [Figure 9-4](#): Carcass Collection Form
 - A printable version of this form is available on the on the ADEC [Area Plan References and Tools](#) webpage.
 - Print landscape orientation on both sides of one sheet of water-resistant paper.
- [Figure 9-5](#): Individual Carcass Identification Tag
 - Pre-printed, as pictured, or use a water-resistant blank tag, two sides.
- [Figure 9-6](#): Carcass Chain of Custody (CoC) Tag
 - Pre-printed or use a water-resistant blank tag, two sides.
- [Figure 9-7](#): Transport Log for CARCASSES
 - A printable version of this form is available on the on the ADEC [Area Plan References and Tools](#) webpage.

Print landscape orientation on both sides of one sheet of water-resistant paper.