

Final Report – NA04NMF4390052

Trends, spatial distribution, and health effects of contaminants on Washington pinnipeds

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Abstract

During the 4-year period of this grant, 321 stranded pinnipeds of six species were examined in Washington State by Cascadia Research sometimes in collaboration with WDFW. This exceeded both the intended period of response and the number of animals responded to. Samples were collected for analysis of long-term trends in contaminants in Puget Sound. These activities resulted in a number of significant new findings: 1) collaboration in the finding of six Guadalupe fur seals, an unprecedented number for this region which resulted in the declaration of an Unusual Mortality Event for this species, 2) a high rate of mortality of pups on Smith Island in 2005 which also led to findings of antibiotic-resistant bacteria in some of these animals, 3) a recent increase in trauma-related mortality of harbor seals in southern Puget Sound. Overall level of response, the thoroughness of stranding examinations, and the level of collaboration with other stranding responders significantly improved through this grant.

Executive Summary

The primary goal of this project was to enhance pinniped stranding response in Washington State and improve the quality of data and number of samples recovered from stranded pinnipeds, with a focus on contaminants in harbor seals. A principal component was to collect samples and conduct analyses to examine long-term trends in contaminants.

Between 2004 and 2007, Cascadia participated in the response and/or examination of a total of 321 pinnipeds throughout the state, including 272 harbor seals, 17 California sea lions, 14 Steller sea lions, 7 northern elephant seals, 6 Guadalupe fur seals, and 3 northern fur seals. We conducted searches each year for dead pups on harbor seal haul-out sites in northern and southern Puget Sound to monitor changes in neonatal mortality and collected samples from a number of animals for histopathology, life history, and contaminant analysis. We documented an unusually high number of dead harbor seal pups on Smith and Minor Islands in 2005, where 110 pups dead pups were found in 5 searches. Detailed examinations were performed but no single cause for the mortality increase was found.

Beach surveys in cooperation with WDFW on the Washington outer coast in the spring of 2007 resulted in the finding of six dead Guadalupe fur seals, a highly unusual species for this area. This eventually led to the declaration of an Unusual Mortality Event, as more Guadalupe fur seals were found in southern Washington and northern Oregon in subsequent weeks.

Detailed examinations of stranded harbor seals in Thurston and Mason counties in the late summer and fall of 2007 revealed a number of cases traumatic injuries on otherwise healthy animals during a time period and general area in which tribal fisheries were occurring. Findings included gunshots, blunt force trauma and evidence of entanglement. Similar findings in neighboring counties prompted NMFS enforcement to open an investigation in late 2007.

Samples were submitted for contaminant analyses to examine levels of chlorinated hydrocarbons and metals and trace elements in tissues. Samples from stranded non-starved harbor seal neonates were collected at two sites in Washington State in a manner consistent with past studies

going back to the 1970s. This harbor seal dataset has provided one of the most consistent long-term indicators of trends in contaminants in the Puget Sound region.

Many of the pinniped responses and examinations are performed jointly with biologists from WDFW and we have maintained excellent working relationships with collaborators at the Institute of Ocean Science and BC Ministry of Agriculture.

Project goals and objectives

The primary goal of this project was to increase the response to and enhance sample collection from stranded pinnipeds statewide. A particular emphasis was placed on the collection of samples for contaminant analysis from harbor seals to continue work on a long-term study of trends and health effects of contaminants on Washington pinnipeds. In addition to regular stranding response, specific objectives included the following:

1. Use stranded harbor seals to evaluate temporal and spatial patterns of contamination in Washington State.
2. Determine contaminant trends in harbor seals in the Puget Sound area over a 30-year time period.
3. Compare contaminant results between stranded and live biopsied animals.
4. Determine Toxic Equivalencies (TEQ) in different age-sex classes of harbor seals from different areas to evaluate health risk and likelihood of immune-system compromise.

Description of work and accomplishments

Pinniped Stranding Response

During the award period of 2004-2007, Cascadia participated in the response and/or examination of a total of 321 pinnipeds statewide (Table 1, Appendix Table A1); however pinniped stranding response in 2004 was also supported by a previous Prescott grant (NA03NMF4390055). Harbor seals were the most frequently stranded pinniped, accounting for 272 of these responses. We also examined 17 California sea lions, 14 Steller sea lions, 7 northern elephant seals, 6 Guadalupe fur seals, and 3 northern fur seals. Two additional pinnipeds were unidentifiable due to carcass condition.

Table 1. Summary of responses to pinniped strandings by Cascadia, including those with collaborators, from 2004-2007.

Species	Year				Totals
	2004	2005	2006	2007	
California Sea Lion	6	3	4	4	17
Guadalupe Fur Seal	0	0	0	6	6
Harbor Seal	24	134	42	72	272
Northern Fur Seal	0	1	2	0	3
Northern Elephant Seal	0	4	1	2	7
Steller Sea Lion	1	3	3	7	14
Unidentified Pinniped	0	1	0	1	2
Totals	31	146	52	92	321

Whenever logistics and condition of the animal allowed, a detailed external and internal examination was conducted and samples were collected for life history, histopathology, contaminants, and genetics (for unusual species such as Guadalupe fur seals). Cause of death was often undetermined due to lack of significant gross and pathology findings or carcass condition. When able to be determined, death was attributed most often to infectious or parasitic conditions, accident/trauma, or malnutrition (Appendix Table 1A).

Searches of harbor seal haul-out sites

Our past work has shown that contaminant concentrations in harbor seals vary with age, sex, and body condition. We have developed a sampling program using stranded non-emaciated neonatal harbor seals that controls for these variables and allows sensitive detection of contaminant trends and spatial differences. These pups are primarily stillborn or trauma-killed animals that are less than 2 weeks old, and are recovered near major rookeries.

Previous work has been largely focused on two harbor seal haul-out sites: one in northern Puget Sound (Smith and Minor Island) and the other in southern Puget Sound (Gertrude Island). While continuing the surveys conducted at these sites, we planned to add an additional sampling site from the outer coast during this project. We conducted 4 trips by boat to haul-out sites in Grays Harbor from 26 April to 29 June 2005 to check for stranded harbor seal pups (Table 2). Several live but lethargic pups were encountered but only one dead pup was recovered during these searches. It seemed that scavengers were consuming the dead seals fairly rapidly and we photographed what appeared to be a pup being consumed by a bald eagle. Based on our lack of success at this site we concluded it was not feasible to obtain an adequate number of samples for examination of contaminant levels in Grays Harbor.

Table 2. Searches for dead pups in Grays Harbor

Date	Vessel	Launch location	Personnel	Start	End
26-Apr-05	Zip	Westport	JAC, VI, ALK	7:00	18:45
26-May-05	Zip	Westport	EAF, ABD, UW	6:38	18:52
3-Jun-05	Zip	Westport	EAF, JLH, ALK	9:34	19:14
29-Jun-05	Zip	Westport	GSS, VI, ALK	7:13	15:35

Active searches at Smith and Minor Islands produced even more samples than we were anticipating. In surveys conducted in 2003-2006 a high number of pups were recovered in all years (Table 3). An exceptionally high rate of neonatal mortality was found at this site in 2005 where 110 dead pups were recovered in just 5 searches. We did not conduct any surveys at this site in 2007.

Detailed examinations on fresh animals were conducted in collaboration with Washington Department of Fish and Wildlife and histopathology was done at Animal Health Center in British Columbia. No consistent cause of death was determined to account for the increase in mortality in 2005 (Table 4), although antibiotic-resistant bacteria was recovered from several animals. Large numbers of live pups were seen at this site after the 2005 mortality (Steve Jeffries, Pers. Comm.) so it is possible that it may have been the result of an unusually high number of births that year.

Table 3. Searches for dead pups on Smith/Minor Islands, 2003-2006(2003 included for comparison).

Year	# Survey Days	Survey Dates	# dead	Age Class Dead	Sampled in field	Collected for necropsy
2003	1	13-Jul-03	4	All pups	2	0
2004	5	6-Jun-04, 21-Jun-04, 30-Jun-04, 9-Jul-04, 15-Jul-04	7	6 pups, 1 adult	4	2
2005	5	5-Jul-05, 10-Jul-05, 13-Jul-05, 25-Jul-05, 7-Aug-05	111	110 pups, 1 adult 19 pups, 1 adult, 1 sub-adult	41	37
2006	2	7-Jul-06, 12-Jul-06	21		5	3

Table 4. Cause of death determination for harbor seals on Smith and Minor Islands, 2003-2006.

Year	Cause of Death							Unable to Determine
	Accident/Trauma	Genetic/ Congenital	Infectious	Malnutrition	Metabolic	Perinatal/ Abortion	Undetermined	
2003	1							1
2004				1		1	1	5
2005	3	1	13	8	2		8	72
2006			2	2				17

In all years, Cascadia worked collaboratively with WDFW to examine and sample dead neonatal harbor seals from Gertrude Island, and participated in some of the captures in which biopsy samples of live harbor seals were obtained for comparison to samples from dead pups.

Guadalupe fur seal mortality event

Within an eight-day period in late June of 2007, a total of six yearling Guadalupe fur seals were recovered during beach surveys conducted in collaboration with WDFW between Moclips and Grayland. This was well north of this species normal geographical range, and all showed some level of malnutrition and some showed signs of gastric or intestinal distress. Several other dead Guadalupe fur seals were recovered by responders in southern Washington and northern Oregon in subsequent weeks, and a live adult female with domoic acid poisoning was rescued from the Washington outer coast on 26 July 2007 by WDFW and Cascadia personnel. That animal was initially treated by staff from WDFW, Cascadia Research, and Point Defiance Zoo and Aquarium before being transported to the Oregon Aquarium and finally, to Sea World San Diego. An unusual mortality event (UME) was declared for Guadalupe fur seals in the region and we have been participating in the investigation. We currently have plans to search the Washington outer coast in May/June of 2008 with WDFW for any additional Guadalupe fur seals.

South Puget Sound human interaction cases

In the late summer and fall of 2007, we recovered an unusually high number of harbor seals in Thurston and Mason Counties compared to previous years, particularly during the month of September (Tables 5). Unlike the emaciated pups we typically see in the south Puget Sound during that time of year, most of these animals were in good body condition and a number of cases presented with evidence of blunt force trauma, gunshot, or entanglement. Of the nine dead harbor seals recovered from this area in September 2007, two were determined to have died from blunt force trauma, two had fatal gunshot wounds, one had severe entanglement injuries, and one had non-lethal gunshot wounds and blunt force trauma. One of the three stranded animals in October 2007 exhibited evidence of both blunt force trauma and possible entanglement injuries (Appendix Table A1).

Table 6. Harbor seal strandings (dead) in Thurston and Mason counties, July-October, 2004-2007

Year	Month				Total
	Jul	Aug	Sept	Oct	
2004	5	1	0	1	7
2005	2	6	5	0	13
2006	3	0	2	1	6
2007	4	3	9	3	19

The increase in stranded harbor seals coincided with the occurrence of tribal fishery activities in the area, and during this same general time period we received several reports from local enforcement agencies and concerned citizens of gunshots heard where gillnet boats were seen operating. An increase in dead harbor seals with evidence of trauma was also noted by stranding networks in neighboring counties (Pierce and Kitsap). These cases were reported to NMFS enforcement and an investigation into these events has been opened.

Contaminant analysis

One goal of this grant was to collect samples from stranded animals for use in examining long-term trends in contaminants in marine mammals and in the Puget Sound ecosystem. Samples have been submitted for a range of contaminant testing including a full range of PCB congeners, pesticides, dioxins, dibenzofurans, metals, and trace elements (Table 7). Additionally some of these samples are being tested for PBDE concentrations, an emerging contaminant we had not anticipated as an issue when we proposed this study but which has been shown to be of growing concern in marine mammals.

Concentrations of metals and trace elements have been determined for harbor seal pups (Table 8) and a range of other age classes of harbor seals from southern and northern Puget Sound (Table 9).

Table 7. Summary of samples collected and submitted for analysis of contaminant trends and comparisons between age classes under this grant and Grant NA03NMFS4390055.

Sample Type	Organic	Inorganic	Methyl Hg
Gertrude dead pups 2003	2		
Gertrude dead pups 2004	6		
Smith dead pups 2005	8	8	4
Gertrude dead pups 2006	8	8	4
Gertrude live pups 2006	8		
S & C Puget Sound Ad M 2004-06	3		
S & C Puget Sound Ad F 2004-06	3		
HC Ad F 2004	1		
Adult F Outer Coast 2004-06	3		
Stillborn Pups HC 2005	2		
Total submitted	44	16	8

Table 8. Results of analyses for metals and trace elements in livers of non-starved harbor seal neonates from Smith and Gertrude Island. Results are in mg/kg wet weight. Note some of the work reported in this table conducted in conjunction with Grant NA03NMFS4390055.

Sample	% dry	Alum	Ars.	Cad.	Copper	Lead	Merc Me	Merc	Nickel	Selen.	Silver	Zinc
Smith Island 2005												
CRC-583	23	1.2	0.54	0.01	58	0.336	1.18	0.45	0.37	4.0	0.14	318
CRC-586	25	2.9	1.20	BDL	167	0.245	7.39	2.44	0.17	3.6	1.49	656
CRC-596	26	0.5	0.65	BDL	52	0.020	0.57	0.48	0.04	3.8	0.23	339
CRC-622	28	10.3	0.35	BDL	25	0.015	0.89		BDL	4.5	0.08	211
CRC-629	26	26.3	0.92	0.01	169	0.014	3.22		0.04	5.3	0.63	745
CRC-636	33	1.0	0.82	BDL	62	0.017	1.53	0.59	0.03	3.5	0.52	206
CRC-640	33	1.6	1.36	BDL	20	0.052	18.70		0.03	2.9	1.00	359
CRC-648	25	73.6	0.75	0.03	20	0.021	3.21		0.03	3.1	0.17	404
Gertrude Island 2004 and 2006												
GI04-09	23	0.5	0.49	BDL	28	0.020	1.96		0.03	3.1	0.21	259
GI04-28	33	BDL	0.36	BDL	37	0.018	2.46		BDL	2.7	0.21	271
GI06-12	27	19.5	0.44	BDL	28	0.012	0.69	0.56	0.07	2.4	0.09	136
GI06-17	25	0.8	0.34	BDL	132	0.014	2.36	0.69	BDL	2.5	0.42	465
GI06-20	29	19.2	0.30	BDL	161	0.037	2.20	0.50	BDL	3.0	0.20	598
GI06-25	30	1.5	0.36	BDL	74	0.022	1.23	0.46	BDL	2.0	0.20	273
GI06-55	37	0.5	0.52	0.01	6	0.036	1.08		BDL	2.4	0.05	77
GI06-58	26	BDL	0.34	BDL	18	0.034	0.78		0.05	3.7	0.07	199

BDL- Below detection limits

Table 9. Summary concentrations of metals and trace elements in adult and subadult harbor seals from northern and southern Puget Sound.

Sample	Date col.	% dry	Alum.	Arsenic	Cadmium	Copper	Lead	Mercury	Methyl Mercury	Nickel	Selenium	Silver	Zinc
Smith Island, northern Puget Sound													
CRC-649 (Lact. Fem)	08/07/2005	28	BDL	5	230	101	0.068	476	6.1	0.12	201	3.50	229
Southern Puget Sound													
CRC-817	09/19/2007	20	0.7	1.5	5	44	0.067	127	2.1	0.13	34.8	0.82	286
CRC-825	10/30/2007	32	0.7	0.25	0.55	4	0.02	0.8	0.4	0.04	0.52	0.01	21.2
EI07-01	07/18/2007	29	BDL	0.74	1	20	0.024	45	0.7	BDL	7.63	0.20	51.5
GI06-16	07/26/2006	27	BDL	4	3.9	40	0.073	516	0.8	0.04	163	1.50	164
GI07-01	02/05/2007	25	2	0.6	2.4	53	0.03	68	1.2	0.06	13	0.29	270
GI07-23	08/05/2007	36	4	0.92	1.1	13	0.039	32	0.8	0.05	6.35	0.16	45
GI07-29	08/13/2007	25	0.4	2.2	3.1	37	0.04	314	2.8	0.08	92.6	1.40	165
GI07-39	09/05/2007	26	BDL	0.86	1.7	34	0.048	27	1.6	0.1	3.48	0.14	168
GI07-43	10/05/2007	25	BDL	0.79	3.3	29	0.062	26	1.7	0.18	6.36	0.17	180
GI07-44	10/05/2007	24	0.5	1.6	1.3	34	0.061	105	2.3	0.06	23.1	0.72	222
WDFW0207-03	02/13/2007	41	BDL	0.91	0.59	17	0.314	20	0.7	0.14	2.48	0.08	42.7
WDFW0607-31	06/29/2007	26	BDL	1.2	0.46	46	0.029	56	1.6	0.07	10.7	0.22	124
WDFW1107-08	11/30/2007	28	1	1.2	1.8	41	0.04	104	1.3	0.08	31.8	0.65	108
WDFW1207-01	12/07/2007	26	BDL	1.4	4.8	36	0.04	198	2.1	0.06	51.3	0.49	125
Overall		28	1.3	1.5	17.4	37	0.064	141	1.7	0.09	43.2	0.69	146.8

BDL-Below Detection Limits

Problems encountered

Contaminant analyses were completed for metals and trace elements but analyses for chlorinated hydrocarbons were still being processed by the laboratory at the end of this grant so are not reported in detail here.

Additional and continued work

Pinniped stranding response will continue with support from another Prescott grant awarded to Cascadia Research in 2007. Plans are in place to survey Smith and Minor Islands in the summer of 2008 and we will continue to work with WDFW to gather samples from Gertrude Island harbor seals for future analysis.

Accomplishment of goals

Overall this grant covered a longer period and more stranding responses than had been anticipated. Samples were collected to achieve the stated goals of the grant. Overall stranding response and capabilities have substantially improved in the region as a result of this grant.

Dissemination of results

Some of the results from this work have been presented at scientific conferences (see below). Stranding results were also reported to NMFS and entered into the national stranding database. We continue to work on additional presentations and manuscripts for publication on stranding results.

Publications and Presentations by Cascadia Research Personnel and Collaborators:

Raverty, S, Hanson, B, Lambourn D, Jeffries, S, Gaydos, J, Haulena, M, Ford, J, Calambokidis, J, and Ross, P. 2007. Pathology of marine mammals stranded in the northeastern Pacific Ocean, 1999-2006. American College of Veterinary Pathologists Annual Meeting. Savannah, Georgia, Nov 10-14, 2007

Raverty, S, Zabek, E, Gaydos, J, Ross, PS, Hanson, M, Norman, S, Calambokidis, J, Ford, J, Haulena, M, Lambourn, D and Jeffries, S. 2007. An overview of Salmonella spp recovered from marine mammals, wildlife and production animals at the Animal Health Center, Abbotsford, British Columbia from 1999 to 2006. International Association of Aquatic Animal, Medicine Annual Conference, Orlando, Florida, May 5-9, 2007

Calambokidis, J., S.J. Jeffries, P.S. Ross, and M. Ikononou. 2005. Harbor seals as indicators of trends in contaminants in Puget Sound: comparison of results from two sites. Proceedings of the 2005 Puget Sound Georgia Basin Research Conference, 29-31 March 2005, Seattle, WA. Proceedings available from Puget Sound Action Team, Olympia, WA (<http://www.psat.wa.gov>).

Expenditures

Expenditures are summarized below for the entire period of the grant in relation to the amounts proposed. Since total expenditures slightly exceeded those budgeted, only the total allowed was billed. Matching contributions exceeded the total proposed.

Category	Total	Proposed		Spent to 12/31/2007	
		Federal	In kind	Fed	Match
Total wages	\$ 22,280	\$ 18,360	\$ 3,920	\$ 19,549	\$ 6,356
Fringe benefits	\$ 6,016	\$ 4,957	\$ 1,058	\$ 5,083	\$ 1,653
Supplies	\$ 2,250	\$ 2,250	\$ -	\$ 2,423	
Travel	\$ 4,610	\$ 4,610	\$ -	\$ 3,732	
Collaborator costs	\$ 63,500	\$ 51,000	\$ 12,500	\$ 50,419	\$ 9,580
Total direct costs	\$ 98,656	\$ 81,177	\$ 17,478	\$ 81,205	\$ 17,589
Indirect - Cap on IC	\$ 30,583	\$ 15,194	\$ 15,389	\$ 15,259	\$ 15,367
Total cost	\$ 129,239	\$ 96,372	\$ 32,867	\$ 96,465	\$ 32,955
Percent non-federal share			25%		25%

Table A1. Summary of pinniped strandings Cascadia Research participated in from 2004-2007.

Field ID	Common Name	Reponse Date	Location	Carcass Condition	Sex	Estimated Age Class	External Comments	Primary Cause of Death
WDFW0304-1	Harbor Seal	3/1/2004	Hartstene Island	Moderate	Male	Adult	Bloated at high tide line, salmon found in stomach. Shattered skull, left side scavenged from shoulder to neck. Skin sloughing.	Accident/Trauma (blunt force trauma)
WDFW0604-01	Harbor Seal	6/8/2004		Fresh	Female	SubAdult	Alive on beach 6/7, Blood on head, seal dead 15:00, necropsy 6/8	Undetermined
CRC-502	Harbor Seal	6/14/2004	Eld Inlet off Biscay Rd	Fresh	Male	Pup	Dead pup was found on float with placenta and lanugo hair. Red/pink fluid coming out of nose. Mother seal near by. Spotty, thin layer of lanugo hair.	Perinatal/Abortion (pup or mother)
MMP0604-05	Harbor Seal	6/14/2004	Camano Island	Fresh	Male	Pup	Blubber over ribs starting to turn jaundice color	Undetermined
CRC-505	Harbor Seal	6/21/2004	Minor Island	Moderate	Female	Pup	Scavanged with exposed rib bones, upper and lower canines erupted, no lanugo hair, thin, small. Two open holes in back, internal organs exposed, maggots in mouth and anus.	Unable to Determine
CRC-506	Harbor Seal	6/21/2004	Smith Island	Advanced	Male	Adult	animal bloated at high tide line, most internal organs unreconizable, exposed skull, skin sloughing, crabs on front flipper, penis extended	Unable to Determine
MMP0604-08	Harbor Seal	6/22/2004	Westport	Fresh	Female	Adult	Seal was seizuring on beach, red swollen eyes, green foam at mouth	Infectious/Parasitic
CRC-507	Harbor Seal	6/23/2004	Priest Point park	Advanced	Female	Pup	shattered skull and shoulder area, possibly scavanged by animal or crushed (logs?), back, head, shoulders scavenged, scapulas, possibly died inutero?. No skin on skull. Blister-like bubbles under skin on hind flippers--possible gas expansion under skin.	Unable to Determine
WDFW0604-12	Harbor Seal	6/23/2004	Newport, Oregon	Fresh	Male	Weaned Pup	Multiple wounds, possibly bites from shark or whale?	Accident/Trauma (predation)
WDFW0604-11	Harbor Seal	6/25/2004	Rockaway Beach, Tillamook	Fresh	Female	SubAdult	Small superficial wound right side ventral by foreflipper, not lactating, conjuntiva red and swollen, bruising around the vagina, possibly mated, does not look post-partum.	Infectious/Parasitic
CRC-524	Steller Sea Lion	6/29/2004	Long Beach	Fresh	Female	Adult	Alive 6/29/04 on beach, lethargic, head bobbing. Superficial external wounds, none infected or serious. Very thin, eyes sunken.	Perinatal/Abortion (pup or mother)

CRC-508	Harbor Seal	6/30/2004	Minor Island	Advanced	Not Determined	Pup	sex undetermined, bloated, body unscavenged except for eyes, maggots found throughout, skin sloughing	Unable to Determine
CRC-510	Harbor Seal	7/9/2004	Smith Island	Fresh	Male	Pup	animal collected 0930h, sampled at JAC's 1724h Right eye missing. Nails > 3 cm.	Perinatal/Abortion (pup or mother)
CRC-511	Harbor Seal	7/9/2004	Minor Island	Fresh	Female	Pup	very scavanged, skin turned inside out, internal organs missing	Unable to Determine
CRC-512	Harbor Seal	7/9/2004	Minor Island	Fresh	Male	Pup	head and front flippers partially in fetal sac, shedding lanugo	Perinatal/Abortion (pup or mother)
CRC-513	Harbor Seal	7/9/2004	Minor Island	Advanced	Not Determined	Unknown	head missing, skin turned in-side out	Unable to Determine
CRC-516	Harbor Seal	7/11/2004	Woodard Bay	Fresh	Male	Unknown	animal very thin, paperwork with WDFW	Undetermined
CRC-517	Harbor Seal	7/11/2004	Solo Point	Fresh	Female	Unknown	umbilicus infected	Infectious/Parasitic
CRC-518	Harbor Seal	7/11/2004	Priest Point park	Moderate	Not Determined	Unknown	Eyes missing, head, rectum, and umbilicus scavenged, skin sloughing off head and back, bloated.	Unable to Determine
WB04-01	Harbor Seal	7/11/2004	Woodard Bay	Fresh	Female	Nursing Pup	Blunt trauma on right side of skull, wounds on right side of head--Bites?, blubber on chest bruised, small laceration on hind flipper.	Accident/Trauma (predation)
CRC-519	Harbor Seal	7/15/2004	Minor Island	Fresh	Female	Nursing Pup	no samples collected--starving.	Malnutrition
CRC-520	Harbor Seal	7/16/2004	Priest Point park	Advanced	Male	Adult	no obvious injuries, maggots throughout but internal organs largely intact, although liver decomposing.	Unable to Determine
CRC-521	Harbor Seal	7/16/2004	Budd Inlet, KGY radio station	Advanced	Not Determined	Nursing Pup	Ventral surface completely decomposed.	Unable to Determine
CRC-527	Harbor Seal	8/12/2004	Budd Inlet	Moderate	Female	Weaned Pup	No obvious injuries but bleeding from eyes, nose, mouth. Eyes protruding.	Accident/Trauma (blunt force trauma)
CRC-528	Harbor Seal	10/5/2004	Priest Point park	Advanced	Female	Weaned Pup	Skin sloughed in places, bloated, too decomposed to pick up. Head missing. Many flies, possibly some maggots. Internal organs decomposed, not clear if yearling or pup of this year.	Unable to Determine
CRC-529	California Sea Lion	10/22/2004	Sequim, WA	Fresh	Male	Adult	Carcass in good condition maybe 1.5 day on beach dead, stranded live. Skeleton visible.	Unable to Determine

WDFW1104-14	California Sea Lion	10/22/2004	Long Beach	Fresh	Male	Adult	No signs of external trauma, hind flippers, slightly swollen, extremely thin, eyes reported swollen. One eye pecked at due to scavenging.	Infectious/Parasitic
WDFW1104-01	California Sea Lion	11/8/2004	North cove, Westport	Fresh	Unknown	Unknown	Animal live but sick upon arrival, 08-Nov-04. Herded to transfer cage and euthanized. Brought back to Lakewood for necropsy, 09-Nov-04. WDFW has data.	Infectious/Parasitic
WDFW1104-02	California Sea Lion	11/8/2004	Twin Harbors St. Pk, Westport	Fresh	Male	Adult	On beach 04-Nov-04 in location with little vehicle traffic. Twin Harbor St. Park monitoring- still alive on Mon., 08-Nov-04, able to lift head, more alert than other sea lion (CRC-531/WDFW 1104-01) down beach. WDFW/MMI, enforcement and Cascadia research responded.	Infectious/Parasitic
WDFW1104-03	California Sea Lion	11/8/2004	Lagoon Point, Widbey Island	Fresh	Male	Adult	Animal found live on beach 05-Nov-06 at Whidbey. 08-Nov-04 four bullets to head but did not die, so injected with 250cc Sodium pentabartiol. Brought in dead to Lakewood for necropsy on evening of 08-Nov-04. Necropsied 09-Nov-04. Suspect trauma to front of head (bullet, piercing trauma) caused sea lion to lie on beach for three days.	Accident/Trauma (gunshot)
WDFW1104-07	California Sea Lion	11/20/2004	Alki Beach	Mod-Adv	Male	Adult	shot	Accident/Trauma (gunshot)
WDFW0305-01	Harbor Seal	3/14/2005	Steilacoom	Unknown	Unknown	Unknown	paper work with WDFW	Undetermined
WDFW0305-02	Harbor Seal	3/15/2005	Ruston	Fresh	Female	Yearling	Found on log. Clear red tinged fluid coming out of nose, no external legions or parasites. Bruising on roof of mouth	Infectious/Parasitic
WDFW0405-02	Harbor Seal	4/13/2005	Silverdale	Fresh	Female	Adult	See live comments	Accident/Trauma (unknown origin)
WDFW0405-04	Harbor Seal	4/21/2005	Dillworth Point, Vashon Island	Fresh	Male	Adult	Age 10+years, worn teeth, lower incisor gone. Old scars on flipper, tail and neck. Eyes sunken. No external parasites. Non symetric head. Broken toenails on left side, no flipper lice.	Accident/Trauma (unknown origin)
WDFW0405-05	Harbor Seal	4/22/2005	Westport	Fresh	Male	Nursing Pup	Age about 5 days. Umbilicus hard and infected at base. No teeth erupted. Patch of forflipper abraided or burned. Bruising thru sternum. 80% lanugo. Fur from forflipper 3x3 cm patch gone.	Congenital/genetic

WDFW0505-07	Harbor seal	5/19/2005	Bellfair, Hood Canal	Fresh	Female	SubAdult	R lateral abdomin pentarating punture wound (was not able to find track. L lower lateral abdomin 2- 3 inch long rake marks and area bulging (hematoma or possible hernia). R- side 1.5 cm pentranting wound located mid dorsal back, wound go down thru blubber to muscle. L mid abdomin 2 inches above pelvis 2 superfical rake mark- upper 4 cm long lower 2 cm with a 4.5 cm distance apart area containing rakehas slight bulge like a hematoma or hernia.	Accident/Trauma (penetrating wound)
CRC-548	Steller Sea Lion	5/24/2005	Ocean City	Unknown	Unknown	Unknown	Found while responding to Gray whale crc-547	Unable to Determine
CRC-549	Harbor Seal	5/24/2005	Ocean City	Fresh	Female	Adult	Half eaten but in good shape possibly preyed upon by OOs?	Unable to Determine
CRC-551	Northern Elephant Seal	5/27/2005	Long Beach	Moderate	Not Determined	Unknown	abrasions around body; face (skin) missing; lesions/abrasions on head, flipper, lower half of body	Unable to Determine
CRC-553	California Sea Lion	5/27/2005	Long Beach	Moderate	Male	Adult		Unable to Determine
CRC-555	Northern Elephant Seal	5/27/2005	Long Beach	Fresh	Female	SubAdult	Green tag on flipper T262, animal emaciated, photos taken.	No exam
CRC-557	Harbor Seal	5/27/2005	Long Beach	Fresh	Not Determined	Pup	Tooth height .4cm, was live and "healthy" day prior.	Unable to Determine
CRC-559	Harbor Seal	6/3/2005	Sand Island, Grays Harbor, WA	Fresh	Female	SubAdult	Head and neck scavanged, all tissue gone to just above foreflippers.	Unable to Determine
CRC-562	Harbor Seal	6/20/2005	Edmonds Marina	Fresh	Male	SubAdult	estim weight 80 kg, axillary girth 92 cm, swelling and bruising throughout body esp on left side of body. PV found dazed swimming off Edmonds, transferred to PAWS . Necropsy peromed at NMML.	Accident/Trauma (unknown origin)
CRC-564	California Sea Lion	6/22/2005	Twin Harbors State Park	Advanced	Male	Adult	Photos taken, too decayed for measurements; missing flippers (side& tail); middle is torn apart (ribs exposed); eyes removed	Unable to Determine
CRC-565	California Sea Lion	6/22/2005	Twin Harbors State Park	Moderate	Male	Unknown	ax girth 100cm X2; small legions due to postmortem scavanging; most of skin and blubber remain	Unable to Determine
CRC-566	Seal Spp.	6/22/2005	Ocean park	Advanced	Male	Pup	Photos taken, little remains and too decayed for measuerments; little remains; completely buried in sand; some white "baby" fur remained near tail	Unable to Determine

CRC-567	Northern Fur Seal	6/22/2005	Ocean Park	Moderate	Female	Pup	Photos taken. Almost all skin/blubber remain, snout is missing, flappy skin, white underside and very bloated	Unable to Determine
CRC-568	Harbor Seal	7/5/2005	Minor Island	Fresh	Male	Nursing Pup	Body appeared emaciated, but blubber thick. Abdomen open at genital slit, moderately scavenged, lower left ribs broken. Eyes scavenged, most internal organs have been scavenged, only heart and lungs present.	Unable to Determine
CRC-569	Harbor Seal	7/5/2005	Minor Island	Fresh	Male	Nursing Pup	Heavily scavenged, dorsal surface open, ribs exposed, eyes/ears gone, internal organs scavenged (post-mortem).	Unable to Determine
CRC-570	Harbor Seal	7/5/2005	Minor Island	Moderate	Male	Nursing Pup	Scavenged around head and genital slit, lots of maggots. Ribs potentially broken, decomposition makes it difficult to determine.	Unable to Determine
CRC-571	Harbor Seal	7/5/2005	Minor Island	Moderate	Female	Nursing Pup	Heavily scavenged at head and genital area, blubber very discolored. Inner organs scavenged.	Unable to Determine
CRC-572	Harbor Seal	7/5/2005	Minor Island	Fresh	Female	Nursing Pup	Emaciated, scavenged on ventral surface along ribcage. Eyes gone. Jaundiced blubber.	Undetermined
CRC-573	Harbor Seal	7/5/2005	Minor Island	Fresh	Male	Nursing Pup	skin sloughing on back and head, 3 hair loss abrasions. Both eyes scavenged, somewhat emaciated. Blubber off-white/red color.	Malnutrition
CRC-574	Harbor Seal	7/5/2005	Minor Island	Unknown	Male	Pup	Heavily scavenged--entire dorsal surface open, head, internal organs heavily scavenged.	Unable to Determine
CRC-575	Harbor Seal	7/5/2005	Minor Island	Fresh	Female	Pup	30% lanugo on beach, 5% lanugo at time of necropsy, actively shedding. Seal small, thin, blubber icteric. Puncture on right side of neck.	Infectious/Parasitic
CRC-576	Harbor Seal	7/5/2005	Minor Island	Moderate	Male	Pup	scavenged on neck and left hip, skin sloughing. Upper/lower canines starting to erupt, 0% lanugo, girth 41	Unable to Determine
CRC-577	Harbor Seal	7/5/2005	Minor Island	Fresh	Female	Pup	eyes bulgy, bald area on back (5cm x 2cm) left side below ribcage. Outside of bowels irritated. Some hemorrhage around eyes and nose. Upper/lower canines and incisors erupted. 30-40% lanugo, umbilicus mostly gone, girth 44. skin slightly sloughing;	Malnutrition
CRC-578	Harbor Seal	7/5/2005	Minor Island	Moderate	Female	Pup	chest and back of head scavenged, maggots in mouth, skin sloughing. Very bloated. Upper/lower canines and incisors erupted, 100% lanugo, 9cm umbilicus; meconium in colon;	Undetermined

CRC-582	Harbor Seal	7/5/2005	Minor Island	Moderate	Male	Pup	Very bloated, eyes protruding. Head very flat-- looks crushed. Bleeding from mouth. Minimal tooth development in lower jaw, 0% lanugo, no umbilical cord	Accident/Trauma (unknown origin)
CRC-584	Harbor Seal	7/5/2005	Minor Island	Fresh	Male	Pup	skin slightly sloughing in head and hind flipper. Lanugo fur peeling. Scavenging on right side of skull just above eye. Potentially abandoned pup. Upper canines just starting to erupt. 50% lanugo, 0.3cm umbilicus stub, girth 38; froth in tracheas up to mouth	Malnutrition
GI05-05	Harbor Seal	7/5/2005	Gertrude Island	Moderate	Male	Pup	Weight 8.6kg, girth 43cm. 95% lanugo, 4.5cm umbilicus stub. No teeth erupted. Bruising inside mouth and on front of head. Left eye not intact, right eye bulging. Head seems short and stubby. Blubber off pink/white with yellow tinge; bruising around lower jaw to back of head; diffuse bruising on top of skull not as heavy; bleeding into abdominal cavity; bruising in epiglottis and tracheal area;	Accident/Trauma (unknown origin)
CRC-579	Harbor Seal	7/6/2005	Minor Island	Fresh	Female	Pup	28cm long scavenged opening on posterior dorsal surface. Right rear flipper has eggs. Eyes intact. Canines barely erupting, 0% lanugo, girth 40.3; full pelage; no umbilicus; bruising around epiglottis; colon appears empty	Metabolic
CRC-580	Harbor Seal	7/6/2005	Minor Island	Moderate	Female	Pup	skin sloughing on hind flippers, eyes decomposed, bulging and bloody. canines and some molars erupted, 10% lanugo, girth 40.1	Unable to Determine
CRC-581	Harbor Seal	7/6/2005	Minor Island	Moderate	Male	Pup	Right side more decomposed than left, appears to be an abandoned pup, not a dead healthy. Upper canines, upper and lower incisors just starting to erupt, 0% lanugo, girth 40; umbilicus gone (scavenged?);	Undetermined
CRC-583	Harbor Seal	7/6/2005	Minor Island	Fresh	Female	Pup	scavenging on eyes only. All teeth starting to erupt, 0% lanugo. Umbilicus 9cm, bulk is 6cm. Girth 45. blubber is whitish pink; subcu fat layer good	Accident/Trauma (unknown origin)
CRC-586	Harbor Seal	7/10/2005	Minor Island	Fresh	Female	Pup	Heavy scavenging on head, eyes missing, skin sloughing on back. all teeth erupted. 0% lanugo, umbilicus 56cm, fresh and unscavenged. Girth 48.5	Congenital/genetic

CRC-587	Harbor Seal	7/10/2005	Minor Island	Fresh	Female	Pup	inside of head and shoulders heavily scavenged, one eye intact. Most likely born alive. No teeth erupted, 80% lanugo, girth 43.	Undetermined
CRC-588	Harbor Seal	7/10/2005	Minor Island	Fresh	Female	Pup	Right side body open with ribs exposed. upper and lower incisors erupted, upper and lower molars starting to erupt. 0% lanugo, girth 40.5	Undetermined
CRC-589	Harbor Seal	7/10/2005	Minor Island	Moderate	Not Determined	Pup	internal organs missing, only skin and bones remain. Lower canines/incisors erupting, upper canines just starting	Unable to Determine
CRC-590	Harbor Seal	7/10/2005	Minor Island	Moderate	Male	Pup	moderately/heavily scavenged, abdomen open dorsally and ventrally. Lower canines and incisors erupted, upper canines just starting. 0% lanugo, girth 47	Unable to Determine
CRC-591	Harbor Seal	7/10/2005	Minor Island	Advanced	Unable to Determine	Nursing Pup	heavily scavenged and turned inside out. 80% lanugo	Unable to Determine
CRC-592	Harbor Seal	7/10/2005	Minor Island	Advanced	Male	Nursing Pup	Heavily scavenged, turned inside out, mostly bones, possible remains of pup samples last survey effort. 30 % lanugo, on neck and sides.	Unable to Determine
CRC-593	Harbor Seal	7/10/2005	Minor Island	Moderate	Female	Pup	dorsal surface open, internal organs present, noted dark pup last survey, very sickly in same location. upper/lower canines and incisors erupted, molars erupting. 0% lanugo, girth 46.	Infectious/Parasitic
CRC-595	Harbor Seal	7/10/2005	Smith Island	Moderate	Not Determined	Pup	Excessively scavenged, inside out. Skeletal system with skin, both picked nearly clean. 80% lanugo.	Unable to Determine
CRC-597	Harbor Seal	7/10/2005	Minor Island	Advanced	Not Determined	Pup	heavily scavenged, nothing much left, entire dorsal skin missing. Could feel canine erupting in lower jaw but very hard to open mouth. 50% lanugo, umbilicus 4.5cm and crispy.	Unable to Determine
CRC-598	Harbor Seal	7/10/2005	Minor Island	Unknown	Female	Pup	heavily scavenged--eyes gone, entire dorsal surface open, no internal organs left.	Unable to Determine
CRC-599	Harbor Seal	7/10/2005	Minor Island	Fresh	Male	Pup	Ventral abdomen ripped open, some cracked ribs (3), internal organs scavenged. upper/lower canines and incisors erupted, molars starting to erupt. 0% lanugo, girth 43.	Unable to Determine
CRC-600	Harbor Seal	7/10/2005	Smith Island	Advanced	Not Determined	Pup	skin only, skeleton ~25 feet away	Unable to Determine

CRC-594	Harbor Seal	7/11/2005	Minor Island	Moderate	Female	Pup	scavenged from dorsal surface, bleeding from nostrils, possibly due to respiratory tract scavenging. All teeth erupted, 0% lanugo, umbilicus 1cm and fleshy, girth 46. (anterior pre-mortem trauma); pup emaciated; ribs palpable; not healthy dead; not total starving	Infectious/Parasitic
CRC-596	Harbor Seal	7/11/2005	Smith Island	Fresh	Male	Pup		Accident/Trauma (unknown origin)
WB05-03	Harbor Seal	7/11/2005	Woodard Bay	Moderate	Male	Pup	Girth 44cm. weight 9kg. Found with head stuck between logs. Hinds flippers swollen, pelvis shattered, left femur shattered and infected. No lanugo, upper canines erupted, incisors barely exposed.; some lacerations; skin sloughing;	Accident/Trauma (unknown origin)
WB05-04	Harbor Seal	7/12/2005	Woodard Bay	Fresh	Female	Pup	Girth 41.5, weight 7kg. All teeth erupted, no lanugo, somewhat thin, no umbilicus.	Undetermined
CRC-602	Harbor Seal	7/13/2005	Minor Island	Moderate	Male	Pup	Opened dorsally, ventral blubber missing. possibly an animal from 10-Jul survey, but not likely. Teeth in lower jaw all erupted, upper jaw n/a. 0% lanugo, girth 43. External injuries appear to be all due to scavenging.;	Unable to Determine
CRC-603	Harbor Seal	7/13/2005	Minor Island	Moderate	Male	Pup	carcass appears relative fresh, but heavily scavenged. Completely open dorsally and ventrally. Some organs still present, no maggots. Teeth fully erupted, girth 40.; wounds all appear postmortem;	Unable to Determine
CRC-604	Harbor Seal	7/13/2005	Minor Island	Fresh	Male	Pup	completely turned inside out and skeleton picked clean. Blubber still looks quite fresh	Unable to Determine
CRC-605	Harbor Seal	7/13/2005	Minor Island	Advanced	Not Determined	Pup	dryer; inverted carcass, heavily scavenged. Head and spinal cord intact. 0% lanugo.	Unable to Determine
CRC-606	Harbor Seal	7/13/2005	Minor Island	Moderate	Male?	Pup	carcass inside out, skeleton clean. Jaw detached from skull.; pelt off dorsally	Unable to Determine
CRC-607	Harbor Seal	7/13/2005	Smith Island	Moderate	Not Determined	Pup	inside out, 0% lanugo;	Unable to Determine
CRC-608	Harbor Seal	7/13/2005	Smith Island	Advanced	Not Determined	Unknown	skin only,inside out, head missing, so are skeletal remains. Some lanugo, but % difficult to determine.	Unable to Determine
CRC-609	Harbor Seal	7/13/2005	Minor Island	Fresh	Female	Pup	heavily scavenged on head and left side of body. Ribs and some internal organs exposed. All teeth erupted. 0% lanugo, girth 45.	Unable to Determine

CRC-610	Harbor Seal	7/13/2005	Minor Island	Fresh	Male	Pup	heavily scavenged right side of body, right eye missing, all internal organs scavenged. all teeth present, large canines. 0% lanugo, girth 42.; no external injuries seen	Unable to Determine
CRC-611	Harbor Seal	7/13/2005	Minor Island	Fresh	Not Determined	PupuPup	Carcass inside out. No internal organs. Spinal column only bonal structure remaining. Hind flippers and tips of pecs on site. Blubber still supple, no maggots. Teeth partially erupted.; heavily scavenged but not decomposed	Unable to Determine
CRC-612	Harbor Seal	7/13/2005	Minor Island	Fresh	Male	Nursing Pup	left side of head heavily scavenged. Rest of body external condition good. all teeth erupted. 0% lanugo, small white umbilicus stub 0.2cm. Girth 36.5; left eye and neck scavenged; very, very thin; full term	Infectious/Parasitic
CRC-613	Harbor Seal	7/13/2005	Minor Island	Moderate	Male?	Pup	spinal column and head intact. Rest of bonal structure removed. Carcass inside out. Blubber still supple, no maggots on site; axillary girth n/a;	Unable to Determine
CRC-614	Harbor Seal	7/13/2005	Minor Island	Fresh	Female	Nursing Pup	roundworms on outside of body (sample collected for Raverty), no external scavenging or bite wounds. Markedly skinny. all teeth erupting, 0% lanugo, girth 38.5.; red serus fluid coming out of umbilicus (possibly infected;	Metabolic
CRC-617	Harbor Seal	7/25/2005	Minor Island	Moderate	Male	Pup	one eye scavenged, scavenging in mouth (tongue gone). Skin sloughing around head and hind flippers. all teeth erupted. 0% lanugo, small white umbilicus stub, girth 42; animal is thin and bloated around chest	Undetermined
CRC-619	Harbor Seal	7/25/2005	Minor Island	Moderate	Female	Pup	head heavily scavenged, both eyes gone, skin sloughing on left side of head and neck. canines and incisors erupted. 0% lanugo, girth 41.; maggots; umbilicus area does not seem infected	Infectious/Parasitic
CRC-620	Harbor Seal	7/25/2005	Minor Island	Fresh	Female	Pup	whole dorsal side opened and scavenged. canines erupted, incisors partially erupted. Girth 46.	Unable to Determine
CRC-621	Harbor Seal	7/25/2005	Minor Island	Fresh	Female	Pup	heavily scavenged on dorsal side and head, eyes gone. all teeth erupted, 4cm fresh umbilicus.	Unable to Determine

CRC-622	Harbor Seal	7/25/2005	Minor Island	Fresh	Female	Nursing Pup	superficial laceration on L lower jaw and R foreflipper, small laceration on R hind flipper. Creamy yellow pus coming from vagina or bladder.; eyes intact; stiff; blubber is pinkish clear	Infectious/Parasitic
CRC-623	Harbor Seal	7/25/2005	Minor Island	Moderate	Female	Pup	heavily scavenged. 0% lanugo, 1.5cm dried umbilicus	Unable to Determine
CRC-624	Harbor Seal	7/25/2005	Minor Island	Advanced	Not Determined	Unknown	bloated, with maggots. no foil available, jar foiled after collection	Unable to Determine
CRC-625	Harbor Seal	7/25/2005	Minor Island	Advanced	Female	Pup	extremely scavenged; canines erupting, incisors partially erupted. 100% lanugo, greasy	Unable to Determine
CRC-626	Harbor Seal	7/25/2005	Minor Island	Advanced	Male	Pup	bloated, skin sloughing, maggots. no foil available, jar foiled after collection. all teeth erupted. 0% lanugo.	Unable to Determine
CRC-627	Harbor Seal	7/25/2005	Minor Island	Advanced	Not Determined	Pup	head and neck heavily scavenged, skin sloughing, maggots. no foil available, jar foiled after collection. all teeth erupted, 20-30% lanugo	Unable to Determine
CRC-629	Harbor Seal	7/25/2005	Smith Island	Fresh	Female	Nursing Pup	head scavenged, both eyes gone. canines erupted, incisors partially erupted. 0% lanugo, 1.5cm fleshy part of umbilicus remaining, girth 50	Undetermined
CRC-631	Harbor Seal	7/25/2005	Smith Island	Moderate	Male	Weaned Pup	head completely scavenged, dorsal heavily scavenged. no foil available, jar foiled after collection	Unable to Determine
CRC-632	Harbor Seal	7/25/2005	Smith Island	Moderate	Not Determined	Pup	scavenging on face, head and rectal area. Girth 42	Unable to Determine
CRC-634	Harbor Seal	7/25/2005	Smith Island	Moderate	Male	Pup	Heavy scavenging on head, back and left side. ran out of jars and foil, so samples taken in whirlpaks. canines erupted, others partially erupted. 0% lanugo	Unable to Determine
CRC-635	Harbor Seal	7/25/2005	Smith Island	Moderate	Female	Pup	heavy scavenging on head and left side. No organs remaining. no jars or foil remaining, blubber in whirlpak	Unable to Determine
CRC-637	Harbor Seal	7/25/2005	Minor Island	Moderate	Female	Pup	large, but thin, probably starving. Eyes punctured by scavengers and bulging. All teeth erupted, 0% lanugo, girth 44; some skin sloughing on hind flipper	Unable to Determine
CRC-638	Harbor Seal	7/25/2005	Minor Island	Fresh	Female	Pup	lower canines starting to erupt. 1.5cm umbilicus in good condition, girth 36.5; emaciated;	Malnutrition

CRC-639	Harbor Seal	7/25/2005	Minor Island	Fresh	Female	Nursing Pup	Large lanugo pup. Skin removed from underside, but doesn't appear to be scavenged or sloughing. One eye scavenged. Canines starting to erupt. 80% lanugo. 0.2cm white stub umbilicus, girth 40.; skin is NOT sloughing, one eye scavenged	Infectious/Parasitic
Ej05-01JS	Steller Sea Lion	7/25/2005	Nesika Beach	Moderate	Female	Pup	Brand 428R. Exposed ribs and chest cavity on left side due to scavenging. Yellow tag glued on back, tissue is necrotic underneath glued tag. Eyes scavenged.	Results Pending
CRC-628	Harbor Seal	7/26/2005	Smith Island	Fresh	Female	Pup	head and neck region heavily scavenged, both eyes gone, skin around nostrils still attached. all teeth erupted, top incisors partially erupted. Girth 39; all tonsils, thyroid, submandibular scavenged	Malnutrition
CRC-630	Harbor Seal	7/26/2005	Smith Island	Fresh	Female	Pup	right eye missing. lower canines have not erupted. 10% lanugo, girth 34; poor body condition/ emaciated	Malnutrition
CRC-636	Harbor Seal	7/26/2005	Minor Island	Fresh	Male	Nursing Pup	blood tinged tuft around mouth, abdomen slightly distended, no external wounds. Feces around rectum. front teeth erupted, back teeth starting to erupt. 0% lanugo, 1.5cm stub umbilicus, girth 41.	Infectious/Parasitic
CRC-640	Harbor Seal	7/26/2005	Minor Island	Fresh	Female	Nursing Pup	Head to left shoulder scavenged. Muscle and both eyes gone. Burned on back. Front canines erupted. 0% lanugo, girth 49.; blubber is whitish	Infectious/Parasitic
WDFW0705-06	Harbor Seal	7/26/2005	Pt Defiance	Fresh	Female	Pup	approx. 1-2 weeks old. No lanugo, front teeth erupted, back not. Umbilicus stub 0.5cm. Small punctures on rt side of head, looks like bite wounds.	Undetermined
CRC-618	Harbor Seal	7/27/2005	Minor Island	Moderate	Male	Pup	abdomen scavenged, eyes gone. Canines erupted. 0% lanugo, girth 41.	Unable to Determine
CRC-633	Harbor Seal	7/27/2005	Smith Island	Fresh	Female	Pup	relatively intact; burnt back, very hard due to sun, no external wounds other than small scavenged region on back. all teeth erupted. girth 41. umbilicus 0.5cm; no lanugo;	Malnutrition
Ej05-02JS	Steller Sea Lion	7/27/2005	Hunter Creek	Fresh	Male	Pup	couple of lacerations on L side approx 3 inches behind front flipper. One is 2 cm long, one further back is 1 cm. Appear superficial. Abrasion on chin. 2x1 cm laceration on left side, more ventral than others. On r side, 2.5cm and 1.5 cm laceration. Markedly emaciated.	Results Pending

CRC-643	Northern Elephant Seal	8/1/2005	Eld Inlet (Green Cove)	Advanced	Not Determined	SubAdult	Skin sloughing, very little remaining on back. Animal exposed to sun and heat--burnt. Severely decomposed internally.	Unable to Determine
CRC-644	Harbor Seal	8/2/2005	Boston Harbor	Moderate	Female	Pup	Skin sloughing on ventral side and flippers. Open on left side, maggots, bloated. All teeth erupted; axillary girth 33(x2)cm - bloated;	Unable to Determine
CRC-646	Harbor Seal	8/7/2005	Minor Island	Moderate	Male	Pup	chest partially scavenged, skin sloughing, abdomen mushy. teeth erupted, 0% lanugo	Unable to Determine
CRC-647	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Nursing Pup	some scavenging on left eye and above.teeth mostly erupted, some post-canines not. 0% lanugo, 0.2cm stub umbilicus, girth 48.5	Infectious/Parasitic
CRC-648	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Pup	hind end stuck under a log. Some scavenging n L abdominal area, one eye missing (left). some post canines still erupting, everything else erupted. 0% lanugo, girth 46	Infectious/Parasitic
CRC-649	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Adult	scavenging at eye (eye gone) and base of head. Old scrapes on flippers bu no other signs of trauma. Lactating. Slight bloating in abdomen on 8 Aug. All teeth present, some wear on canines. Girth 83.	Undetermined
CRC-650	Harbor Seal	8/7/2005	Minor Island	Fresh	Male	Nursing Pup	L eye scavenged. Dark with light spots. No bite wounds on flippers. all teeth erupted, except for front incisors. 0% lanugo, girth 39. umbilicus gone, but area open. Thin.	Infectious/Parasitic
CRC-651	Harbor Seal	8/7/2005	Smith Island	Fresh	Male	Pup	scavenged from back at chest area, portions of head also scavenged. No bite wounds on flippers. mostly erupted, except a few front incisors. 0% lanugo, girth 45.	Infectious/Parasitic
CRC-652	Harbor Seal	8/7/2005	Smith Island	Fresh	Female	Pup	head and chest scavenged. No lesions or bite wounds on flippers. all teeth erupted. 0% lanugo, girth 42.	Infectious/Parasitic
CRC-653	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	Skin and bones, mummified, deflated. 0% lanugo	Unable to Determine
CRC-654	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	skin and bones only (mummified)	Unable to Determine
CRC-655	Harbor Seal	8/7/2005	Smith Island	Advanced	Male	Nursing Pup	maggots, skin sloughing, 2week pup	Unable to Determine
CRC-656	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	scavenged on back, mostly intact. Maggots, mummified, deflated	Unable to Determine

CRC-657	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Male	Pup	Most intact, deflated, mummified. Skin gone, burned.	Unable to Determine
CRC-658	Harbor Seal	8/7/2005	Smith Island	Advanced	Female	Pup	skin sloughing, most intact, some scavenging on left eye, deflated, maggots.	Unable to Determine
CRC-659	Harbor Seal	8/7/2005	Smith Island	Advanced	Female	Pup	deflated, eye scavenged, rest intact.	Unable to Determine
CRC-660	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	mummified, deflated. Lanugo fur just below carcass, but none on body. Possible near term death?	Unable to Determine
CRC-661	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	skin inside out. 0% lanugo	Unable to Determine
CRC-662	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	skin-mummified	Unable to Determine
CRC-663	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Female	Pup	skin and bones, mummified	Unable to Determine
CRC-664	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	skin-mummified	Unable to Determine
CRC-665	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Not Determined	Pup	skin-mummified	Unable to Determine
CRC-666	Harbor Seal	8/7/2005	Smith Island	Fresh	Male	Pup	shoulder, back and inside scavenged. looked erupted canine, 0% lanugo	Unable to Determine
CRC-667	Harbor Seal	8/7/2005	Smith Island	Mumm/Skel	Male	Pup	back scavenged, mummified and deflated. 0% lanugo	Unable to Determine
CRC-668	Harbor Seal	8/7/2005	Smith Island	Moderate	Male	Pup	head and chest gone (scavenged) bloated, skin sloughing on flippers	Unable to Determine
CRC-669	Harbor Seal	8/7/2005	Smith Island	Advanced	Not Determined	Pup	skin only	Unable to Determine
CRC-670	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Pup	mostly scavenged, skin and skull remain. 0% lanugo	Unable to Determine
CRC-671	Harbor Seal	8/7/2005	Minor Island	Mumm/Skel	Not Determined	Pup	mummified, 0% lanugo	Unable to Determine
CRC-672	Harbor Seal	8/7/2005	Minor Island	Mumm/Skel	Not Determined	Pup	mummified, 0% lanugo	Unable to Determine
CRC-673	Harbor Seal	8/7/2005	Minor Island	Mumm/Skel	Male	Pup	skin and bones, mummified, 0% lanugo	Unable to Determine
CRC-674	Harbor Seal	8/7/2005	Minor Island	Mumm/Skel	Not Determined	Pup	mummified, all teeth erupted, 0% lanugo	Unable to Determine
CRC-675	Harbor Seal	8/7/2005	Minor Island	Moderate	Female	Pup	eyes scavenged, nothing else. Very bloated. All teeth erupted, 0% lanugo, girth 58	Unable to Determine

CRC-676	Harbor Seal	8/7/2005	Minor Island	Advanced	Female	Pup	abdomen completely open, head scavenged, no organs all teeth erupted, 0% lanugo	Unable to Determine
CRC-677	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Pup	R eye scavenged, other intact. Bite wounds on R front flipper, laceration on L rear flipper. Skin sloughing when pulled on. all teeth erupted, 0% lanugo, girth 42.5; emaciated. starving;	Malnutrition
CRC-678	Harbor Seal	8/7/2005	Minor Island	Fresh	Female	Pup	internal organs completely scavenged, upper canines erupted, other teeth starting to erupt	Unable to Determine
CRC-679	Harbor Seal	8/7/2005	Minor Island	Moderate	Female	Pup	outer surface intact, large pup, appears emaciated although very maggoty underneath. all teeth erupted, 0% lanugo, girth 47.	Unable to Determine
CRC-680	Harbor Seal	8/7/2005	Minor Island	Advanced	Female?	Pup	large pup, does not seem emaciated but may be due to bloating. Lower abdomen open, very maggoty. Teeth possibly erupted but gums decomposing. girth 50; most damage due to decomp.;	Unable to Determine
CRC-681	Harbor Seal	8/7/2005	Minor Island	Advanced	Male?	Pup	large pup, minimally scavenged but highly decomposed;	Unable to Determine
CRC-682	Harbor Seal	8/7/2005	Minor Island	Advanced	Male	Pup	some scavenging dorsally but almost completely intact, large pup. all teeth erupted, 0% lanugo (coat in poor condition)	Unable to Determine
CRC-683	Harbor Seal	8/7/2005	Minor Island	Advanced	Female	Pup	completely open dorsally, organs mostly gone or in poor condition, skin peeling off. canines/incisors erupted, molars just erupting, 0% lanugo.	Unable to Determine
WDFW0805-03	Harbor Seal	8/8/2005	Pt Defiance	Moderate	Male	Pup	5cm laceration on back, reporting party said post-mortem from a jet ski. No intestines-- reporting party "gutted" the animal so it wouldn't smell. Rt pelvic bone shattered.	Unable to Determine
CRC-686	Harbor Seal	8/26/2005	Priest Point park	Moderate	Not Determined	Adult	Skin sloughing on face, mouth, left foreflipper and right dorsal surface. Body cavity deflated, puncture wound above left flipper. No scavenging. Muscle tissue and internal organs heavily decomposed. Blubber sample taken from ventral surface just above left hip; internal organs heavily decomposed (soupy); high lipid content 0.3cm just below rib cage;	Unable to Determine
CRC-687	Harbor Seal	8/26/2005	Old Port Beach (W. Budd Inlet)	Fresh-Mod	Female	SubAdult	Bloated, most skin on dorsal sloughed off. Eyes intact, no scavenging. Est. girth 39 x 2 (bloated); high lipid content; no stomach contents	Unable to Determine

CRC-688	Harbor Seal	8/26/2005	Old Port Beach (W. Budd Inlet)	Advanced	Female	Adult	Heavily scavenged from entire head region to foreflippers. Ribs exposed.	Unable to Determine
CRC-689	Harbor Seal	8/26/2005	Old Port Beach (W. Budd Inlet)	Moderate	Female	Pup	No scavenging, feces around anus. Lacerations on both sides of tail (possible bite marks). Small superficial injury on left foreflipper. Canines and incisors erupted. Girth 57.4 cm; 2 lacerations above feet on both sides (possible bite marks); injury on left pectoral; external parasites on lower portion	Unable to Determine
CRC-690	Harbor Seal	9/2/2005	Budd Inlet, S of Olympia Country Club	Moderate	Female	Adult	60% skin sloughed off, very bloated. Dorsal surface from head to just above tail red with yellow blotched, baked by sun. tissues protruding from anus; Eyes intact, skin around eyes swollen. Est girth 47 x 2.	Unable to Determine
CRC-691	Harbor Seal	9/8/2005	W. side Budd Inlet (57th cooper pt. Rd.)	Moderate	Male	Weaned Pup	Bloated, skin sloughing on head, chest and flippers, eyes gone, internal organs decomposed, no signs of trauma, lots of flies. Teeth fully developed. Blubber sample taken from abdomen (sternal blubber was baked by sun). Est girth 50cm; lanugo fur on chest;	Unable to Determine
CRC-692	Harbor Seal	9/19/2005	Priest Point park (N. end)	Fresh	Male	Pup	light scavenging on eyes, small lacerations on hind flippers (photos taken). Girth 52cm. Teeth fully erupted.	Unable to Determine
CRC-693	Harbor Seal	9/27/2005	Allyn Public Dock	Moderate	Not Determined	Weaned Pup	Bloated, maggots in mouth and rectum, skin sloughing on flippers, back, face. Eyes scavenged. No signs of trauma. Jaw is dislocated but probably due to position on beach. Internal organs too decomposed for sampling. Teeth fully developed. Possibly male.	Unable to Determine
CRC-694	Harbor Seal	9/27/2005	Allyn Public Dock	Moderate	Male	Pup	Bloated, skin sloughed off head and neck. Eyes and all skin around mouth gone. Skin sloughing on back and flippers. Teeth appear to be erupted but difficult to tell due to missing tissue around jaw and mouth. Very thin--possible starving.	Unable to Determine
CRC-696	Harbor Seal	9/27/2005	Olympia, Swantown Marina	Live	Unable to Determine	Pup		Live--Deemed "healthy"
CRC-695	Harbor Seal	9/29/2005	Whidby Island	Fresh	Male	Adult	Animal tagged approx. 1 month ago. X-rays taken at Pierce College. Full work-up performed at WDFW.	Undetermined

WDFW1105-06	Northern Elephant Seal	11/14/2005	Ocean Shores	Fresh	Male	Adult	Severe bruising/hemorrhaging from sternum to skull. No external signs of trauma.	Accident/Trauma (blunt force trauma)
WDFW0206-04	California Sea Lion	2/14/2006	Ocean City	Fresh	Male	Adult	R eye partially scavenged, the rest of the body intact. The animal is thin.	Undetermined
WDFW0306-01	California Sea Lion	3/8/2006	N side Discovery Park, Seattle	Fresh	Male	Adult	Very thin, skin loose around neck, able to see vertebrae. No obvious external wounds or abscesses on initial exam. After discussion with ground keeper post necropsy rolled over and was able to find a healed entry wound with hair going into wound. Opened and able to follow track to necrotic area. Right mid dorsal back next to thoracic vertebrae. Not able to visualize entry wound into thoracic cavity.	Accident/Trauma (penetrating wound)
WDFW0306-03	Harbor Seal	3/8/2006	Edmonds	Fresh	Male	Adult	Animal not examined. Life history information from capture info	No exam
06Pv24AprCI-03	Harbor Seal	4/24/2006	Camano Island	Fresh	Male	Adult	Moderately thin. L eye sunken. R thumb toenail is broken. Toenails longer on R foreflipper than on L. Wound on L hind flipper, superficial and healing. Hole on L rear digit #3, possible tag. But no hole on R rear flipper. L lip is necrotic and ulcerated and missing 2 of the upper L hind molars, leaving bone exposed. Bone exposed on the lower L jaw on last 3 molars, but teeth are intact. Marked white froth coming out of nose.	Undetermined
CRC-713	Harbor Seal	5/21/2006	Seahurst Park, Burien	Moderate	Male	Adult	was reported as fresh but clearly not. Skin sloughing on face, flippers, back, eyes gone, intestines coming out of penile opening and rectal area. Bloated. Found a spine/quill in rt lower lung possible migration track from stomach thru diaphragm into lung.	Unable to Determine
WDFW0506-02	Harbor Seal	5/22/2006	Seahurst Park, Burien	Moderate	Male	Adult	Skin sloughing on head, all from face, all flippers, and back. Intestines coming out rectum and penile opening. Eyes gone. Blubber yellow.	Unable to Determine
WDFW0506-01	Steller Sea Lion	5/24/2006	Westport	Fresh	Female	Adult	Tagged as a pup. Number was 73Y. Healed brand on left side also numbered 73Y. Tag location front left and right flippers.	Infectious/Parasitic
WDFW0506-03	Steller Sea Lion	5/24/2006	Grayland	Advanced	Male	Adult	Head missing. Scavenged abdomen.	Unable to Determine

WDFW0506-04	Steller Sea Lion	5/24/2006	Grayland	Mod-Adv	Male	Adult	Vertebrae separated from rest of Body at abdominal area. Most skin gone, buried head, maggots in mouth.	Unable to Determine
GI06-04	Harbor Seal	6/3/2006	Gertrude Island	Fresh	Male	Lanugo Pup	Right eye scavenged. Partially scavenged placenta. Rest of carcass in tact. Still in partial placenta.	Perinatal/Abortion (pup or mother)
CRC-721	California Sea Lion	6/9/2006	Pacific Beach	Mod-Adv	Male	Adult	Extremely bloated. Maggots coming from eyes and mouth. Scavenging in small areas on back right side--opening into abdominal cavity. Cavity filled with fluid, organs appear to be decomposed.	Unable to Determine
WDFW0606-02	Northern Elephant Seal	6/9/2006	Ocean Shores	Fresh	Male	Weaned Pup	Weaned pup, male. Fair body condition. 3.2cm Blubber. Noexternal sign of trauma. Superficial laceration on right foreflipper. Tar patches on ventral portion of body. 12x5cm L thorax area, 4x6 Rthorax area, 5- 1x1 cm area thorax, 3 -1x1 cm areas abdominal area, 4x2 cm path L abdominal area, 3x2cm R abdominal area. Right scavenged.	Infectious/Parasitic
WDFW0606-06	Harbor Seal	6/25/2006	Grayland	Fresh	Male	Weaned Pup	L eye and cheek -meaty flesh gone. Tongue scavenged. Rest of body intact. R conjunctiva red. Area from chin to chest/sternum -possibly dried vomite/blood encrusted into fur prior to scavenging. Animal still in rigor.	Undetermined
GI06-01	Harbor Seal	6/26/2006	Gertrude Island	Fresh-Mod	Male	Lanugo Pup	Skin gone scavage off cranium and flippers. Scavenged: left eye, left shoulder, left abdominal. Intestines are gone. Right eye intact around eye, right eye skin starting to peel. Some fecal staining around anus - meconium/colon - some meconium. Umbilical cord area has been scavenged. Canines starting to erupt through gum tissue.	Perinatal/Abortion (pup or mother)
CRC-729	Harbor Seal	7/6/2006	Minor Island	Moderate	Female	Lanugo Pup	headless, scavenged on chest	Unable to Determine
CRC-730	Harbor Seal	7/6/2006	Minor Island	Fresh	Male	Lanugo Pup	almost completely scavenged	Unable to Determine
WDFW0706-04	Harbor Seal	7/9/2006	Goldsborough creek, Shelton	Fresh	Unable to Determine	Pup	Carcass was gone at response, carcass condition estimated by CRC per time dead from WDFW.	No exam

CRC-731	Harbor Seal	7/10/2006	Redondo Boat Launch	Fresh-Mod	Female	Adult	5-10 yrs old. Sunburned/baked on back, conjunctiva red and slightly swollen, bleeding out the nose and mouth. Lesions in mouth. Ulcers on both sides of upper gums and tongue. Abdomen slightly distended. Estimate age 5-10 years.	Infectious/Parasitic
CRC-734	Harbor Seal	7/12/2006	Minor Island	Moderate	Unable to Determine	Pup	some skin and a few bones. Inside out. Skull and backbone detached. 20% lanugo fur on back.	Unable to Determine
CRC-735	Harbor Seal	7/12/2006	Smith Island	Mumm/Skel	Unable to Determine	Adult	heavily scavenged abdominal cavity. No organs remain. Skin sloughing blubber is burned, little left is mummified.	Unable to Determine
CRC-736	Harbor Seal	7/12/2006	Smith Island	Mumm/Skel	Unable to Determine	Pup	skull crushed, just pelt left.	Unable to Determine
CRC-737	Harbor Seal	7/12/2006	Smith Island	Mumm/Skel	Unable to Determine	Pup	Pelt and bones only	Unable to Determine
CRC-738	Harbor Seal	7/12/2006	Smith Island	Mumm/Skel	Unable to Determine	Pup	inside out and mummified. Skin only.	Unable to Determine
CRC-739	Harbor Seal	7/12/2006	Minor Island	Advanced	Male	Pup	coat clumped and greasy, spinal column and pelt only	Unable to Determine
CRC-740	Harbor Seal	7/12/2006	Minor Island	Moderate	Unable to Determine	Pup	pelt, spinal column and skull only. Skin sloughing.	Unable to Determine
CRC-741	Harbor Seal	7/12/2006	Minor Island	Fresh	Male	Pup	coat clumpy and greasy. Est age is <24 hrs old. Skin and spine only.	Unable to Determine
CRC-742	Harbor Seal	7/12/2006	Minor Island	Mod-Adv	Male	Pup	est age: 1 week. Full of maggots, starting to deflate	Unable to Determine
CRC-743	Harbor Seal	7/12/2006	Minor Island	Moderate	Male	Pup	skin and spine only. Skin sloughing. Est age: <1 week	Unable to Determine
CRC-744	Harbor Seal	7/12/2006	Minor Island	Fresh-Mod	Male	Pup	starving. Left thigh scavenged, maggots crawling out of belly and mouth.	Malnutrition
CRC-745	Harbor Seal	7/12/2006	Minor Island	Fresh-Mod	Male	Pup	left eye punctured, some skin on hind flippers and head sloughing.	Infectious/Parasitic
CRC-746	Harbor Seal	7/12/2006	Smith Island, S side	Fresh	Male	Pup		Infectious/Parasitic
CRC-747	Harbor Seal	7/12/2006	Smith Island S side	Moderate	Male	Pup	spine and skin only.	Unable to Determine
CRC-748	Harbor Seal	7/12/2006	Smith Island, W side	Mumm/Skel	Unable to Determine	Pup	Skin inside out, not able to turn right-side out.	Unable to Determine
CRC-749	Harbor Seal	7/12/2006	Smith Island, W side	Fresh	Female	Pup	skin, skull and spine only. Some fur clumping.	Unable to Determine

CRC-750	Harbor Seal	7/12/2006	Smith Island, W side	Mod-Adv	Unable to Determine	Pup	skin only, fur clumping.	Unable to Determine
CRC-751	Harbor Seal	7/12/2006	Smith Island, W side	Advanced	Unable to Determine	SubAdult	subadult to adult, skin and bones only.	Unable to Determine
CRC-752	Harbor Seal	7/12/2006	Smith Island, W side	Fresh	Male	Pup	tip of tail starting to slough, some scavenging on top of head and right eye. Markedly thin, no obvious signs of trauma. Top of head sunbaked. Starvling/abandoned pup.	Malnutrition
CRC-753	Harbor Seal	7/13/2006	Swantown Marina	Mod-Adv	Male	Pup	eyes gone, scavenging on head, mouth, umbilicus. Bloated. Skin sloughing on head, back and flippers. Internal organs too decomposed for sampling--mushy and falling apart. Meconium in colon.	Unable to Determine
CRC-758	Harbor Seal	7/25/2006	Eld inlet	Moderate	Male	Pup	skin sloughing on tail and foreflippers, bloated, eyes scavenged, some scavenging under left foreflipper and on right side. Some maggots in mouth.	Unable to Determine
GI06-15	Harbor Seal	7/26/2006	Gertrude Island	Fresh	Male	Adult	Animal still in rigor. White froth out of nose and mouth on pick-up. Left eye scavenged. Flipper lice on head. Old bite wounds on hind flipper and tail. Most scars old (head, neck). Few superficial new scars on hind flipper. Puss out of left ear. Blubber whitish.	Undetermined
GI06-16	Harbor Seal	7/26/2006	Gertrude Island	Fresh	Male	Adult	Still in rigor when found, out of rigor at time of necropsy. Left eye scavenged. Right front flipper swollen, able to express puss out of puncture wound on right front flipper. Old wounds on left front flipper and hind flippers and neck. Do not appear infected. Old scarring on hind flippers.	Malnutrition
GI06-20	Harbor Seal	8/1/2006	Gertrude Island	Fresh	Female	Pup	Some pinkish fluid oozing from umbilical opening. Froth from nose. Omentum hanging out of umbilical opening.	Infectious/Parasitic
GI06-22	Harbor Seal	8/1/2006	Gertude Island	Fresh-Mod	Male	Pup	Head scavenged, lower jaw missing. Red oozing from umbilicus. Estimated age: 1-2 weeks old	Infectious/Parasitic
GI06-24	Harbor Seal	8/1/2006	Gertrude Island	Fresh-Mod	Male	Pup	Eagles scavenged intestines out of umbilicus. Eyes slightly bulging. Partial placenta still attached	Perinatal/Abortion (pup or mother)

GI06-25	Harbor Seal	8/1/2006	Gertude Island	Fresh	Female	Pup	Intact. Reddish tinged fluid from umbilical opening and nose. Few superficial bite wounds on hind flippers Area of hemorrhage between eyes. Wound not infected	Infectious/Parasitic
CRC-771	Harbor Seal	9/1/2006	Eld Inlet, Cooper Point Rd and 71st (beach)	Moderate	Female	Pup	skinny, no bloating, ribs visible thru skin, head sunken. Lesions on both hind flippers and one large one on right front flipper. Few small wounds on ventral sternum area.	Unable to Determine
CRC-772	Harbor Seal	9/6/2006	Olympia, KGY	Moderate	Female	Weaned Pup	bloated, both eyes bulging (rt more than left). Skin sloughing on all flippers, blood tinged fur on lower jaw and neck. No other external injuries.	Accident/Trauma (blunt force trauma)
CRC-775	Harbor Seal	10/2/2006	Olympia, Swantown Marina	Mod-Adv	Unable to Determine	Pup	Half of skin missing, bloated, sunburned. Unable to get to animal due to rising tide. Due to condition of animal and logistical problems, no action taken and no exam conducted.	Unable to Determine
GI07-48	Harbor Seal	10/26/2006	Gertrude Island	Fresh-Mod	Female	Weaned Pup	Truama to chest and base of neck	Accident/Trauma (blunt force trauma)
WDFW1106-13	Northern Fur Seal	11/8/2006	Long Beach	Fresh	Female	Weaned Pup	right eye scavenged. No signs of trauma	Results Pending
WDFW1106-14	Northern Fur Seal	11/25/2006	Long Beach	Fresh	Female	Pup	transverse laceration, L side of skull between lateral canthus and ear. Markedly thin.	Results Pending
CRC-780	California Sea Lion	12/31/2006	Olympia, Tom's Outboard Motors	Live	Unable to Determine	Unknown	Reported wandering street behind Tom's Outboard Motors. By the time Cascadia arrived at the site, a WDFW enforcement officer had scared it back into the water with fireworks. We were not able to evaluate the animal.	No exam
CRC-783	California Sea Lion	1/9/2007	McAllister Creek, Nisqually	Fresh-Mod	Male	Adult	External bullet hole top of crest and another rt side back of head, eyes bulgy (and either punctured or exploded). Healing wound (potentially bite wound) rt dorsal pelvic area down to muscle.	Accident/Trauma (gunshot)
WDFW0107-03	California Sea Lion	1/19/2007	Gig Harbor	Fresh	Male	Adult	Skin starting to slough around eye and penis. 0.5mm penetrating wound R side just behind ear. No exit wound seen. Fish bones in mouth.	Accident/Trauma (gunshot)
WDFW0207-02	Harbor Seal	2/3/2007	Manchester	Moderate	Female	Yearling	Does not appear shot on external exam seal skin is sloughing and part of it face is missing due to scavenging and decomposition	Results Pending

CRC-784	Harbor Seal	2/5/2007	Olympia, Boston Harbor Marina	Live	F	Weaned Pup	Reported to have been at docks for about a week and a half. Checked out on 31 Jan, animal appeared slightly thin but healthy. Decided to wait a couple more days to see if it would eventually leave. Came back to pick up and relocate on 5 Feb 07, as animal was still hanging around the docks.	Live--Deemed "healthy"
GI07-01	Harbor Seal	2/5/2007	Gertrude Island	Fresh	Male	Adult	Rt eye scavenged, scavenging on L. eyeskull and lower jaw, into the back of neck, tongue partial scavenged, penile opening. 100% molted. L flipper tag gone. Missing 4 upper incisors, Lower incisors and 102 molar both side, last hind molar Rt side about to fall out	Infectious/Parasitic
GI07-02	Harbor Seal	2/5/2007	Getrude Island	Fresh	Female	Yearling	Extensive scavenging	Unable to Determine
WDFW0207-03	Harbor Seal	2/13/2007	McNeil Island	Fresh-Mod	Female	Adult	Scavenging on R eye and Lower jaw. Marks at l eye and snout. Numerous superficial laceration longitudinal on back and Left side. Likely from falling out of back of Pickup post mortum. No hemorrhage assiate with injury. Abdomin Slight fluid fille don ballotment. ~12inches of intestines pulled through Niple scavenged area. Large scavenged area20x15 cm ventral upper thorax	Infectious/Parasitic
CRC-785	Harbor Seal	3/6/2007	Grayland	Fresh	Male	Adult	Slight scavenging on head and rectum, L eye gone, Rt eye intact. Blood coming from ears and gunshot wounds. 2 bullet holes on head--1 8cm below and behind ear, other top of head, left side, 13 cm above and behind ear (probably first)--shattered skull; brain and blood coming out. Blood and brain matter coming from ear and wound. Clot coming out of mouth. No other injuries.	Infectious/Parasitic
WDFW0307-01	Harbor Seal	3/6/2007	Mukilteo	Fresh	Male	Yearling	Eye on R side bulgy, red conjunctiva, Skin just starting to slough around eye. Superficial bite wound rt rear flipper. Not in rigor.	Infectious/Parasitic
WDFW0307-03	Steller Sea Lion	3/12/2007	Westport	Fresh	Female	Adult	Sea lion still in rigor on 3/12. L-eye scavenged and gone. R- muscle around eye scavenged, eye intacted.	Accident/Trauma (unknown origin)

WDFW0307-03 Fetus	Steller Sea Lion	3/12/2007	Westport	Fresh	Male	Fetus, In mother	Still in placenta and most placenta still attached to uterus. 2 cm placenta starting to come out of cervix. Some bruising around head and some patches on body, skin on flipper starting to slough. No cleft palate. Dark fur starting to appear on dorsal head and back to tail side and abdomen still blonde	Accident/Trauma (unknown origin)
WDFW0407-01	Harbor Seal	4/1/2007	Oysterville	Fresh	Male	Lanugo Pup	Conjuntiva pale, possibly just start of scavanging on conjuntiva otherwise rest intact	Perinatal/Abortion (pup or mother)
WDFW0407-03	Harbor Seal	4/9/2007	Ocean Shores	Fresh	Male	Lanugo Pup	Umbilicus off set to Right side, Abrasion just above L knee area on abdomin, fur gone, and red. Tongue partially and L eye scavanged, R eye intact, nose area slightly scavanged.	Malnutrition
WDFW0407-07	Harbor Seal	4/18/2007	Padilla Bay	Fresh	Female	Adult	some scavanging around the vuvla, bruising and slightly distended. Sligh scavanging around the eyes. Marked thin.	Undetermined
WDFW0507-07	Steller Sea Lion	5/18/2007	North Cove	Fresh	Female	Adult	L eye scavanged, abdomin distend with air/fluid. No obvious external injuries, on closer exam not able to find entrance wound.	Accident/Trauma (unknown origin)
CRC-790	Steller Sea Lion	5/23/2007	Copalis	Fresh-Mod	Male	Adult	minor scavanging in penile opening, right eye punctured, blood in sand around head (from eye?), slightly bloated, right foreflipper has an old (bite?) wound, no external signs of trauma. Animal lying on its back, tipped to left side.	Infectious/Parasitic
CRC-791	Pinniped, Unidentified	5/23/2007	Ocean Shores	Advanced	Unable to Determine	Unknown	head gone, no fur, all tissue gone from neck and most appendages, abdominal cavity open and organs scavanged. Some skin remaining on flippers, both fore and hind flippers long. Could be a California or a small Steller or a fur seal.	Unable to Determine
WDFW0507-11	Harbor Seal	5/30/2007	Westport	Fresh	Female	Pup	Thin.	Malnutrition
WDFW0607-01	Harbor Seal	6/1/2007	Gig Harbor, Kopechuck State Park	Moderate	Female	Adult	Seal had rope tied around just behind front flipper. Seal was bloated, tongue swollen and eye bulging, some scavanging around genitals. Body bloated around rope. Does not appear to have bruising around area of rope so appears to be tied on post mortum. Sun bake on back. Only 1 lower incisor. Appears to be pregnant.	Undetermined
WDFW0607-01fetus	Harbor Seal	6/1/2007	Gig Harbor, Kopechuck State park- in Mother	Fresh-Mod	Female	Fetus, In mother	Fetus in better decomposition condition than mother. Fur still intact, no sloughing.	Perinatal/Abortion (pup or mother)

WDFW0607-02	Harbor Seal	6/6/2007	Manchester	Fresh	Female	Lanugo Pup	No obvious external injuries. Some bruising inbetween the eyes.	Perinatal/Abortion (pup or mother)
WDFW0607-03	Harbor Seal	6/7/2007	Edmonds	Fresh	Male	Yearling	1.2 cm round laceration left ventral neck. Superficial. Bile colored fluid coming from mouth. Runny stool. Smells.	Undetermined
WDFW0607-14	Harbor Seal	6/13/2007	LaPush	Fresh	Female	Pup		Undetermined
WDFW0607-17	Northern Elephant Seal	6/16/2007	Ocean City	Fresh	Female	Weaned Pup	Not in rigor. No scavenging. Blood coming from nose and mouth no scavenging. No external injuries	Results Pending
WDFW0607-18	Guadalupe Fur Seal	6/20/2007	Moclips	Fresh	Female	Yearling	Dorsal lateral fur comes past wrist on flipper. Underside of flipper straight across.	Infectious/Parasitic
WDFW0607-22	Guadalupe Fur Seal	6/20/2007	Ocean Shores	Fresh	Female	Yearling	Has stalk barnacles on back, behind ear , L pelvis area and neck. Still in partial rigor. Thin. 6 post canine on top and 5 post canines bottom. Fur extending down past the wrist.	Undetermined
WDFW0607-24	Guadalupe Fur Seal	6/20/2007	Ocean Shores	Fresh	Female	Yearling	No eyes left due to scavenging. Some blood on fur under L front flipper, but couldn't find where it cam from.	Infectious/Parasitic
WDFW0607-29	Harbor Seal	6/23/2007	Long Beach	Fresh	Female	Adult	Scavaging on top of head ,lips and eyes. Abdomin scavanged, just remanant pieces of spleen, kidney and pancreas. Puncture wounds on lower jaw and neck.	Infectious/Parasitic
WDFW0607-27	Guadalupe Fur Seal	6/24/2007	Twin Harbors State Park	Fresh	Male	Yearling	Eyes scavenged. One goose neck barnacle mid back. Tip of R flipper missing (most likely post mortem.) Ulceration on upper lip.	Undetermined
WDFW0607-28	Guadalupe Fur Seal	6/24/2007	Westport	Fresh	Female	Yearling	6 Post canines on upper jaw, 5 on lower, Eyes have been scavenged. Goose neck barnacles, mostly on mid dorsal back, L neck, and below shoulder. Froth coming out of nasal sinus.	Infectious/Parasitic
CRC-794	California Sea Lion	6/28/2007	Coaplis	Mumm/Skel	Male	Adult	Little fur and whiskers remain on snout. Sagital crest present. Rest of bones picked entirely clean.	Unable to Determine
WDFW0607-30	Guadalupe Fur Seal	6/28/2007	Grayland	Fresh-Mod	Male	Yearling	6 post canines on upper jaw, 5 post canines on lower. Thin.	Infectious/Parasitic
WDFW0607-31	Harbor Seal	6/29/2007	Day Island	Fresh-Mod	Male	Adult	Eyes gone (scavanged) , old scars on neck and hind flippers and tail. No obvious external trauma.	Accident/Trauma (unknown origin)

GI07-09	Harbor Seal	7/2/2007	Gertrude Island	Fresh	Female	Pup	Just skin and flippers. Clumping of lanugo fur on back and still greasy. Did not make it to water. Either died Shortly before birth or shortly after birth	Perinatal/Abortion (pup or mother)
CRC-797	Harbor Seal	7/3/2007	Olympia	Moderate	Male	Pup	skin sloughing all over body but especially flippers, eyes and anal opening scavenged, intestines coming out of umbilical area.	Results Pending
GI07-11	Harbor Seal	7/10/2007	Gertrude Island	Fresh	Male	Lanugo Pup	Left eye is bleeding, slightly scavenged. Umbilical area scavenged. Lanugo fur is clumped and still greasy. No cleft palate. Bleeding from abdomen; abdomen soft and mushy. Eye bulging. Rectum swollen.	Pending, possible genetic defect
GI07-12	Harbor Seal	7/11/2007	Gertrude Island	Fresh	Female	Lanugo Pup	Meconium sticking out of anus. Coat meconium stained. Eyes and tongue partially scavenged. No cleft palate	Perinatal/Abortion (pup or mother)
WB07-01	Harbor Seal	7/11/2007	Olympia	Fresh	Male	Pup	Couple superficial bite marks on hind flipper. Still in rigor. No scavenging. No lanugo.	Infectious
CRC-799	Harbor Seal	7/12/2007	Allyn	Fresh	Male	Pup	still in rigor, no cleft palate, some blood coming from nose, conjunctiva is a little red	Congenital/genetic
CRC-800	Harbor Seal	7/12/2007	Olympia	Fresh	Unknown	Unknown	Reported to WDFW in late afternoon and forwarded to CRC, unable to get to site until late evening, by then the animal was gone--likely taken out by the high tide.	Not Examined
CRC-804	Harbor Seal	8/1/2007	Olympia	Fresh	Male	Pup		Undetermined
CRC-805	Harbor Seal	8/1/2007	Olympia	Mod-Adv	Male	Pup	skin sloughing, entire body is mushy, part of omentum hanging out and scavenged. Lanugo fur covering all but top of flippers and head.	Unable to Determine
CRC-806	Harbor Seal	8/15/2007	Olympia	Live	Unknown	Pup	Was originally reported dead, found to be live at response.	Live--Deemed "healthy"
CRC-807	Harbor Seal	8/23/2007	Seattle	Fresh-Mod	Female	Weaned Pup	abdomen slightly distended. No skin sloughing, blood coming from nose and mouth	Results Pending
CRC-808	Harbor Seal	8/24/2007	Olympia	Fresh	Male	Weaned Pup	no signs of external trauma. Jaw in rigor, body is not.	Undetermined
WDFW0907-01	Harbor Seal	9/6/2007	McNeil Island	Fresh	Female	Pup	Both eyes are scavenged. Superficial bite wounds on hind flippers.	Results Pending
WDFW0907-02	Harbor Seal	9/6/2007	Seattle	Fresh-Mod	Male	Weaned Pup	Four parallel lacerations extending on the L side from the back to the sternum and between the foreflipper and umbilicus. Entire cavity open. All ribs broken. Propeller?Shark?	Accident/Trauma (unknown origin)

CRC-809	Harbor Seal	9/10/2007	Olympia	Moderate	Male	Weaned Pup	skin sloughing on head and hind flippers, carcass bloated. L eye bulging, right eye punctured. No external injuries.	Accident/Trauma (blunt force trauma)
CRC-810	Harbor Seal	9/11/2007	Olympia	Live	Unknown	Pup	Animal appeared to be alert and healthy. Asked RP to call back if animal still there after the next high tide.	Live--Deemed "healthy"
CRC-811	Harbor Seal	9/14/2007	Olympia	Live	Unknown	Pup	reporting party quite upset and insisting that seal needed to be rescued. Seal hauled out on log boom next to docks. No external signs of injury, explained to RP about harbor seal behavior and asked him to call back if animal still there in 48 hours.	Live--Deemed "healthy"
CRC-813	Harbor Seal	9/14/2007	Belfair	Fresh	Female	Lanugo Pup	left side of head scavenged, eye gone. Scavenging in rectal area--intestines starting to be pulled out.	Results Pending
CRC-814	Harbor Seal	9/15/2007	Olympia	Fresh	Male	Weaned Pup	Harbor seal pup reported to be having trouble breathing and swimming in "a whole lot of pollution". Animal was no longer there at time of response. lake maintenance crew picked up dead seal from same area on 16 Sept. Marked swelling from behind eyebrows around to base of lower jaw, behind eyes and on lower jaw and lips.	Accident/Trauma (fishery interaction)
CRC-815	Harbor Seal	9/18/2007	Olympia	Fresh-Mod	Female	Weaned Pup	skin sloughing on face and head, back, and hind flippers. Slightly bloated. Circular wound (widened by scavengers) on back of neck and another just above left shoulder (in straight line from first one). Eyes scavenged.	Accident/Trauma (gunshot)
CRC-816	Harbor Seal	9/19/2007	Olympia	Mod-Adv	Female	Weaned Pup	right eye bulging, skin sloughing around mout and flippers, blood coming from mouth, around left shouldver and rectum. Swelling around pelvic area. Slightly bloated. Minimal scavenging around umbilicus.	Accident/Trauma (blunt force trauma)

CRC-817	Harbor Seal	9/19/2007	Olympia	Moderate	Female	Adult	doesn't appear to be lactating or to have nursed this year (nipples not bald). Skin sloughing on head and hind flippers, some scavenging around rectum. L eye gone, rt eye intact. Puncture-type wound (bite??) on rt foreflipper at joint, flipper joint swollen. Fish piece in mouth. Multiple small holes on L and ventral side of neck, none appear to have penetrated the blubber, metal piece (shrapnel?) recovered from one of the holes. Possible buckshot.	Accident/Trauma (blunt force trauma and gunshot)
CRC-818	Harbor Seal	9/21/2007	Olympia	Live	Unknown	Pup	reported to be bleeding and seizing on beach, but seemed to be trying to suckle on barnacles (nose cut up). Deemed to be "healthy" enough to be left at site, likely recently weaned.	Live--Deemed "healthy"
CRC-819	Harbor Seal	9/21/2007	Olympia	Moderate	Male	Subadult	skin sloughing all over body. Carcass bloated. Scavenging on right shoulder, intestines coming out at penile opening. No flipper tags.	Accident/Trauma (gunshot)
WDFW0907-17	Harbor Seal	9/21/2007	Kerton Island	Moderate	Female	Weaned Pup	Skin sloughing. Bloated. Bruising around rectum.	Accident/Trauma (unknown origin)
WDFW0907-16	Steller Sea Lion	9/23/2007	Westport	Fresh	Female	Adult	Still in partial rigor on necropsy. Raised vessicle on L. Flipper. Appears postpartum, able to express some milk from nipples	Results Pending
CI07-01	Harbor Seal	9/24/2007	Cutt's Island	Unk	Unknown	Pup	Just skin. No skeletal material	Undetermined
CI07-02	Harbor Seal	9/24/2007	Cutt's Island	Moderate	Male	Pup	Appear to be hung by foreflippers. Able to see were rope marks were animal was tied. Chest open due to probable scavenging ribs still intact. Head still bent back. Thin. No sample taken due to decomposition	Unable to Determine
CI07-03	Harbor Seal	9/24/2007	Cutt's Island	Fresh	Male	Weaned Pup	Still in rigor when picked up eyes sunken	Results Pending
WDFW0907-18	Harbor Seal	9/24/2007	Steilacoom	Moderate	Male	Weaned Pup	eye gone skin sloughing on head and back hind flippers. Penetrating hole in back near pelvis, brain coming out of skull	Accident/Trauma (penetrating wound)
CRC-820	Harbor Seal	9/25/2007	Olympia	Advanced	Unknown	Pup	reported on 21 September and said to have been there for >2 weeks. carcass deflated and severely scavenged. Holes in right side of skull (scavengers?).	Unable to Determine

CRC-821	Harbor Seal	9/25/2007	Olympia	Advanced	Unknown	Pup	reported to be at same beach as CRC-820 (contact reported 2 animals in area) and to have been there for about the same time period. Unable to locate this animal at time of response.	Unable to Determine
CRC-822	Harbor Seal	10/4/2007	Kingston	Mod-Adv	Male	Weaned Pup	skin sloughing, skull exposed, mandible and rostrum broken, bones in flippers exposed. Moderate bloating but abdomen intact. No holes in skull. Liver and other organs too decomposed for sampling. Edema along right side from end of ribcage up into neck; unclear if this is due to post-mortem decomposition. No broken bones seen.	Unable to Determine
WDFW1007-02	California Sea Lion	10/4/2007	Ocean City	Fresh-Mod	Male	Adult	L eye gone. Abdomin mildly distended. Testicle markedly enlarged. Jaw in rigor. Right testicle-2 round fresh wound on ventral surface. There is a distinct facial wall in the middle perhaps bite wound.	Infectious
WDFW1007-04	Steller Sea Lion	10/4/2007	Ocean City	Moderate	Male	Subadult	Some skin slough off L hind flipper and testicles. small round hole in torso. L. Eye- gone. Color of pelage and fur length consistent with a Steller sea lion	Results Pending
WDFW1007-06	Harbor Seal	10/4/2007	Ocean Shores	Moderate	Unknown	Adult	Unable to determine sex due to extent of scavanging	External Exam only
GI07-43	Harbor Seal	10/5/2007	Gertrude Island	Fresh	Male	Adult	Right eye scavanged, and little around L eye lid. Superficial bite and scratch wounds. No appear to be infected. Just post breeding season.	Infectious
GI07-44	Harbor Seal	10/5/2007	Gertrude Island	Fresh	Male	Adult	eyes and portion of tongue scavanged and a little scavanging around rectum. Many superficial fight wound around head neck, and flippers. Some are old but from this years Breeding season.	Cardiac Arrest
WDFW1007-09	Harbor Seal	10/14/2007	Ocean Shores	Fresh-Mod	Male	Adult	Upper and lower canine cracked to the gum. Some molars and incisors missing. ~40% molted. Very thin. Old healed scar around neck and hind flipper from fighting	Geriatric
GI07-46	Harbor Seal	10/15/2007	Gertrude Island	Fresh	Male	Weaned Pup	Eyes and lip on R side scavanged.	Results Pending

CRC-823	Harbor Seal	10/22/2007	Shelton	Moderate	Male	Adult	Skin sloughing all over body, large patches missing on hind flippers and face. Left eye bulging, right eye punctured. Hemorrhage and edema on ventral neck, most to the right of the trachea, hemorrhage and edema on top of head and back of neck, again mostly on the right side. Skull appears to be intact. Lower lip appears swollen, jaw intact. Cut (possible entanglement) on left lower jaw/lip.	Accident/Trauma (blunt force and poss fishery interaction)
WDFW1007-16	Harbor Seal	10/25/2007	Seattle	Fresh	Male	Weaned Pup	Appears to have multiple punctures probably consistent with a bite on right side hip	Pending
GI07-47	Harbor Seal	10/26/2007	Gertrude Island	Moderate	Female	Weaned Pup	scavenging to head and neck	Infectious
GI07-48	Harbor Seal	10/26/2007	Gertrude Island	Fresh-Mod	Female	Weaned Pup	Truama to chest and base of neck	Accident/Trauma (unknown origin)
GI07-49	Harbor Seal	10/26/2007	Gertrude Island	Fresh-Mod	Male	Weaned Pup	Superficial bite wounds on front and back flippers, feces around rectum, Infected L rear flipper	Results Pending
CRC-825	Harbor Seal	10/30/2007	Olympia	Mod-Adv	Male	Adult	eyes gone, bloated, skin sloughing all over body. Flesh on hind flippers rotting (underwater)	External Exam only
WDFW1007-21	Harbor Seal	10/30/2007	Bainbridge Island	Mod-Adv	Male	Weaned Pup	Skin Sloughing. Bones exposed on L hind flipper	Unable to Determine
CRC-824	Harbor Seal	10/31/2007	Hartstene Island	Unk	Unknown	Unknown	Reported to be caught up on rope or float ~200ft offshore in front of RP's home, trailing line from hind flippers. Gray with black spots. Animal still there at 1100 on 30 Oct 07, but animal gone by time of response; no exam.	Not Examined
WDFW1007-20	Harbor Seal	10/31/2007	Port Orchard	Moderate	Male	Weaned Pup	Eye scavenged, skin sloughing on body and head, Open wound on R hind flipper, laceration on L hind flipper as well. Feces around anus	Results Pending
WDFW1107-02	Harbor Seal	11/1/2007	Bainbridge Island	Mod-Adv	Male	Weaned Pup	Skin sloughing, skull exposed	Accident/Trauma (blunt force trauma)
WDFW1107-04	Harbor Seal	11/7/2007	Tacoma	Fresh-Mod	Female	Weaned Pup	eye sunken when animal was found. Bald lower abdominal area. Possibly from rubbing.	Infectious

CRC-829	Harbor Seal	11/12/2007	Hoodsport	Mod-Adv	Unknown	Weaned Pup	all tissues missing from head, skull exposed. Skin sloughing in patches all over body, all skin gone from hind flippers, bones exposed. 2 round holes on back, appear to be from scavenging. Stomach pulled out from hole in right side (empty). Rectum is scavenged, believe animal is female but unable to confirm. Internal organs too decomposed for sampling. No evidence of human interaction. Reported as being shot, determined to be combination of scavenging and sloughed skin that appeared similar to entry/exit wounds. No evidence of tracking wounds found.	Unable to Determine
CRC-831	Harbor Seal	11/13/2007	Brinnon	Fresh	Unknown	Pup	Initially seen on 12 November, reported next day but carcass had washed away. No response. RP said no evidence of trauma. Small seal, gray with black spots. No scavenging, skin still intact, no bloating.	Not Examined
WDFW1107-05	Harbor Seal	11/13/2007	Tacoma	Fresh	Male	Weaned Pup	2 cm round abcess R lower jaw, enterance wound at gum line	Results Pending
CRC-830	Harbor Seal	11/16/2007	Seabeck	Mod-Adv	Unknown	Unknown	described as large, 3-4 feet long, bloated, skin sloughing all over body, head completely scavenged. Due to remote location and condition of carcass, no response	Not Examined
CRC-832	Harbor Seal	12/4/2007	Brinnon	Fresh	Unknown	Pup	Mudslides prevented CRC from picking up animal. Agency biologist at the shellfish lab agreed to pick it up and freeze it until we can recover it for necropsy.	Necropsy Pending
WDFW1207-03	Harbor Seal	12/13/2007	Westport	Fresh	Female	Pup	Superfical lacerations on foreflippers(left tip), Appears thin	Results Pending
WDFW1207-05	Steller Sea Lion	12/22/2007	Ocean Shores	Fresh	Male	Pup	Frozen for later examination, necropsied in late January, 2008.	Results Pending
WDFW1207-06	Northern Elephant Seal	12/31/2007	Pacific Beach	Moderate	Male	Subadult	examined in the field.	Results Pending