

Preface to 2021 KM_B field observer forms

In interpreting these forms, the following information may be useful and includes qualitative observations from the survey:

1. Because the frequency of observation can be so high in the field, corrections called in for observations already saved – even observations a few seconds old – usually cannot be immediately edited into the database, as this would require pausing the survey to make each correction. Instead, the correction is noted on the field observer form along with the sequence number of the original recorded observation. These are then applied at the completion of the transect or, if conditions require, during the quality control processing following close of field work.
2. A notation of ‘h’ after a number denotes the number of birds that were holding for a species identification. If unremedied, these were changed to unidentified in the database.
3. We noted juveniles on observation sheets but did not include notes in the database files. Juvenile murrelets closely resemble definitive basic (adult winter) plumage for each species. The primary characteristic used for species identification of juveniles was the black eye cap, which extends below the eye in MAMU and above the eye in KIMU. Juvenile observations made by CLA were classified as ‘unidentified’ species (2 obs), while those made by other observers were classified to species (23 obs). CLA did not feel confident in their species ID of juveniles.
4. Corrections needing to be made after the survey (for example, erasing a tracklog that was accidentally initiated when nowhere near a transect) are marked on the form with a “QC” annotation. These post-survey corrections are applied to the KM_D Corrected Data product – not to the raw data.
5. Observers only identify groups exhibiting “water” behavior, as specified in the operating protocol KM-2012.1. No flying bird groups were reported in 2021.
6. A small NPS vessel (GLBA LE Skiff, XtraTuf) crossed Transect 007 and was heading south at approximately 13:42 near the shoreline prior to our approach. We continued with the survey.
7. On the following transects (002, 003, 004, 005, 006), particularly along the eastern edge of the transects near the mouths of South Sandy Cove, North Sandy Cove, and the eastern shore of Sturgess Island, we consistently observed several species of marine predators (humpback whales, Steller sea lions, harbor seals, gulls, and other seabird species) that were foraging primarily in nearshore areas. This area also overlapped with consistently high concentrations of humpback whales during July 2021 and the designation of “whale waters” in this area.
8. Murrelets of both species were often observed holding fish in the following regions: Johns Hopkins Inlet, Reid Inlet, Upper Muir Inlet (transect 013), mouth of the East Arm, and Hugh Miller Inlet.
9. Additionally, on Transect 006 and 022, the captain’s GPS was taking him to a point on a different transect and the boat began to deviate off the transect course during the survey. The deviation was detected and the captain corrected course. Observations on Transect 006 were described as slightly off transect in KM_B for this reason.

10. On transect 009 on 14 July 2021, the Sea Wolf, which was heading south towards the mouth of the East Arm approximately mid-channel, crossed through transect 009 prior to our survey of that portion of the transect.
11. On 20 July 2021, while on transect 025 in Johns Hopkins Inlet, JNW observed a group of 39 Kittlitz's murrelets which were beyond (and off) the transect and along the northern shore of John Hopkins Inlet. After discussion between STH and JNW, this observation was not included in the data as it was off transect. JNW also received reports of large groups of Kittlitz's murrelets in Johns Hopkins Inlet on 17 July 2021 from GLBA Interpretation Ranger that was on the day boat (St. Theodosius). JNW also observed large groups of Kittlitz's murrelets in Johns Hopkins Inlet from 5-7 July 2021 while aboard the Circle Take with the Brooks film crew that was conducting filming operations in GLBA.
12. While on transect 021 in the upper West Arm on 20 July 2021, we received communication from the Sea Wolf (Captain Keith Thompson) that they had recently observed many murrelets in upper Tarr Inlet in the upper West Arm, which was not surveyed during 2021.
13. Additional seabird species observed during the survey but not enumerated include fork-tailed storm petrels (mid-bay), pigeon guillemots, horned puffins, tufted puffins, parasitic jaeger (Lower Beardslee Entrance), red-necked phalaropes (Lower Glacier Bay, Sitakaday Narrows, Bartlett Cove), glaucous-winged gulls, black-legged kittiwakes, Bonaparte's gulls, surf scoters (Hugh Miller Inlet). Additionally, we observed 2 ancient murrelets on 22 July at 13:59 on transect 303 (58.434371 N and -135.986834 E). This was the first observation of this species during surveys.
14. Two male transient killer whales were observed on the on the western shore of Russell Island during transects 021 and 022. These same transient killer whales later traveled along the shore by Confusion Point and Jaw Point and were later observed near transect 025 along the northern shore of Johns Hopkins Inlet.
15. Murrelet Team Members for 2021 survey: observers: Steven T. Hoekman (STH), Jamie N. Womble (JNW), Courtney L. Amundson (CLA), Linnea E. Pearson (LEP); data Recorders: Tom R. Ziomek (TRZ), Courtney L. Amundson (CLA), Linnea E. Pearson (LEP), Jamie N. Womble (JNW); vessel captain /vessel: Justin G. Smith (JGS) / R/V Capelin.
16. Survey Dates: July 12-14th, 19-22nd, 2021 (note July 12th was first day and encompassed training and July 22nd included transects from alternating panel (102 and transects in Whidbey Passage) that are not included in the attached KM_B.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

☒ Corrections to auto data capture,
or ☐ Manual record of observations

Transect 001

Vessel CAPELIN Page 1 of 1

Observer 1 STH

Only observer, or left observer of 2-person team

Obsvr 2 JNW

Right observer of a 2-person team

Start | end 1619 / 1632

In Alaska Daylight Time

Date 19-JUL-21

Recorder TRZ

Weather 0

	(1) 30°C	(2) 10°C	(3) 0°C	(4) Rain
Visibility (m)	1	1	1	1

Beaufort ~~2~~ 1

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.

Transcribe time and location from GPS waypoints after transect is completed.

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
 or ☐ Manual record of observations

Date 13-JUL-21

Recorder TRZ

Weather 1

Visibility (m) 1

Beaufort 3

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.



☐ Corrections to auto data capture,
or ☐ Manual record of observations

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

☒ Corrections to auto data capture,
or ☐ Manual record of observations

Transect 006

Date 19-JUL-21

Vessel CAPELIN Page 1 of 1

Recorder *TRZ*

Observer 1 STH

Weather /

Obsvr 2 JNW Only observer, or left observer of 2-person team

Visibility (m)

Right observer of a 2-person team

Start | end 1020 / 1151

Beaufort

In Alaska Daylight Time

(0) $< 50^{\circ}\text{C}$ (1) $> 50^{\circ}\text{C}$ (2) Fog (3) Mist (4) Rain

(1) $> 500\text{m}$ (2) $250\text{-}500\text{m}$ (3) $< 250\text{m}$

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 19-JUL-21

Recorder TRZ

Weather 0

Visibility (m) 1

Beaufort 0

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

☒ Corrections to auto data capture,
or ☐ Manual record of observations

Transect 008

Date 19-JUL-21

Vessel CAPELIN Page 1 of 1

Recorder TRZ

Observer 1 STHWeather C

Only observer, or left observer of 2-person team

(0) $< 50^{\circ}\text{C}$ (1) $> 50^{\circ}\text{C}$ (2) Fog (3) Mist (4) Rain

Obsvr 2 JNW

Visibility (m)

Right observer of a 2-person team

(1) $> 500\text{m}$ (2) $250\text{--}500\text{m}$ (3) $< 250\text{m}$

Start | end 1410 / 1513

Beaufort

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 9/14/2021
Recorder JNW
Weather 1
visibility (m) (1) < 50 CC (1) > 50 CC (2) Fog (3) Mist (4) Rain
(1) > 500m (2) 250-500m (3) < 250m
Beaufort 2
(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

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Transect 010
Vessel Capelin Page 1 of 1
Obsvr 1 CLA
Only observer, or left observer of 2-person team
Obsvr 2 STH
Right observer of a 2-person team
Start | end 1543 | 1605
In Alaska Daylight Time

Date 7/14/2021

Recorder JNW

Weather I

Visibility (m) I

Beaufort I

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 7/14/2021

Recorder JNW

Weather I

Visibility (m) 1
(1) <50 (C) (1) >50 (C) (2) Fog (3) Mist (4) Rain

Beaufort 2
(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

Record key is present only for correction to automated entries.

Transcribe time and location from GPS waypoints after transect is completed.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

☒ Corrections to auto data capture,
or ☐ Manual record of observations

Transect 012

Date 14-JUL-71

Vessel CAPELIN Page 1 of 1

Recorder TRZ

Observer 1 STW

Weather

Only observer, or left observer of 2-person team

(0) $<50^{\circ}\text{C}$ (1) $>50^{\circ}\text{C}$ (2) Fog (3) Mist (4) Rain

Obsrvr 2 CLA

Visibility (m) 1

Right observer of a 2-person team

(1) $> 500\text{m}$ (2) $250-500\text{m}$ (3) $< 250\text{m}$

Start | end 1309 1340

Beaufort 1

In Alaska Daylight Time

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

☒ Corrections to auto data capture,
or ☐ Manual record of observations

Transect 013

Date 14-JUL-21

Vessel CAPELIN Page 1 of 1

Recorder CUA

Observer 1 STH

Weather 1

Only observer, or left observer of 2-person team

(0) $<50^{\circ}\text{C}$ (1) $>50^{\circ}\text{C}$ (2) Fog (3) Mist (4) Rain

Obsrvr 2 JNW

Visibility (m) 3

Right observer of a 2-person team

(1) > 500m (2) 250-500m (3) < 250m

Start | end 1470 / 1413

Beaufort 1 to zero

In Alaska Daylight Time

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.

SEAN KITTLITZ'S MURRELET OBSERVER FORM

This sheet is used as:

or ☒ Corrections to auto data capture,
☐ Manual record of observations

Transect 014

Vessel CAPELIN Page 1 of 1

Observer 1 STH

Only observer, or left observer of 2-person team

Obsrvr 2 LEP

Right observer of a 2-person team

Start | end 1747 / 1804

In Alaska Daylight Time

Date 21-JUL-21

Recorder TRZ

Weather

(0) <50 CC (1) >50 CC (2) Fog (3) Mist (4) Rain

Visibility (m) 1

(1) $> 500\text{m}$ (2) $250\text{-}500\text{m}$ (3) $< 250\text{m}$

Beaufort 2

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 21-JUL-21

Recorder TRZ

Weather

(0) <50 CC (1) >50 CC (2) Fog (3) Mist (4) Rain

Visibility (m) 1

(1) $> 500\text{m}$ (2) $250\text{-}500\text{m}$ (3) $< 250\text{m}$

Beaufort

In Alaska Daylight Time

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

QC: in database, 2U, 1K - left as is, this likely noting 2U for later ID			
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Transcribe time and location from GPS waypoints after transect is completed.

Transcribe time and location from GPS waypoints after transect is completed.



or ☒ Corrections to auto data capture,
☐ Manual record of observations

In Alaska Daylight Time

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

In Alaska Daylight Time

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 20-JUL-21
Recorder TRZ
Weather 0
Visibility (m) 1
Beaufort 0

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 20-JUL-21

Recorder TRZ

Weather

(0) $< 50^{\circ}\text{C}$ (1) $> 50^{\circ}\text{C}$ (2) Fog (3) Mist (4) Rain

Visibility (m) 1

Beaufort 0

(1) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

When recording manually, note changes to starting conditions below on a single row between observations

[illegible]

Record key is present only for correction to automated entries.

KIMU OBSERVER FORM.DOCX REVISED 2012-06-06

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 20-JUL-21

Recorder TRZ

Weather 1

Visibility (m) 1
(0) < 50 (1) > 50 (2) Fog (3) Mist (4) Rain

Beaufort 1
(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 20-JUL-21

Recorder TRZ

Weather 0

Visibility (m) 1
(0) < 50 C' (1) > 50 C' (2) Fog (3) Mist (4) Rain

Beaufort 0
(1) > 500m (2) 250-500m (3) < 250m

(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.



☒ Corrections to auto data capture,
or ☐ Manual record of observations

Date 22-JUL-21

Recorder TRZ

Weather 1

Visibility (m) 1
(0) < 50 C' (1) > 50 C' (2) Fog (3) Mist (4) Rain

Beaufort 1
(1) > 500m (2) 250-500m (3) < 250m
(0) Calm (1) 1-20 cm (2) 20-50 cm (3) 0.5-1 m (4) 1-2 m

[illegible]

Transcribe time and location from GPS waypoints after transect is completed.

