Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

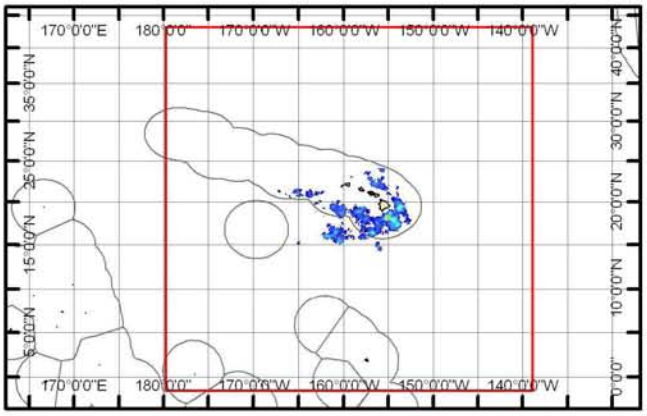
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

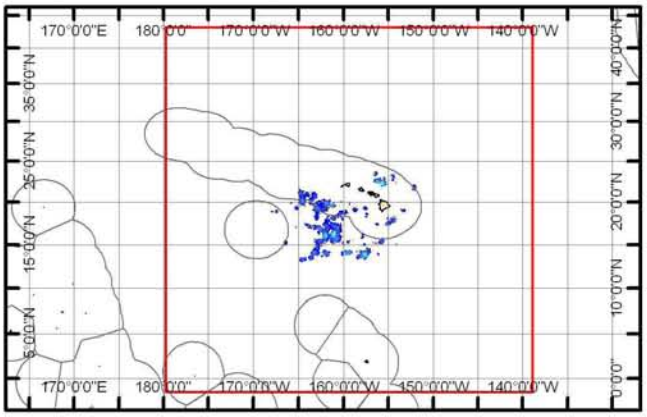
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

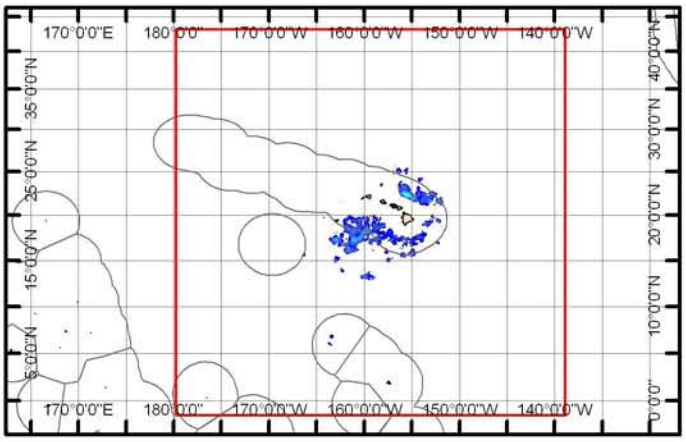
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

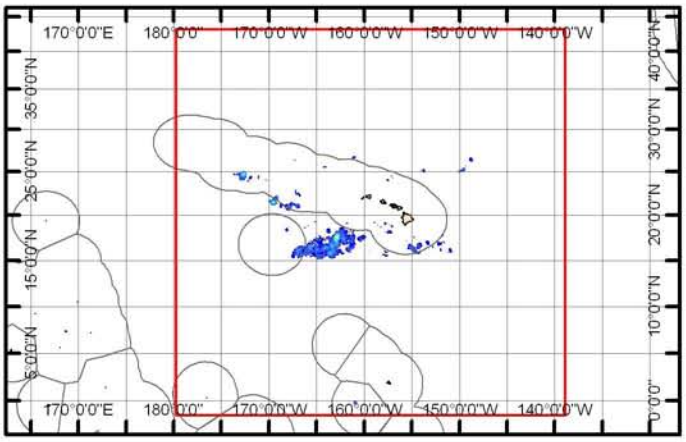
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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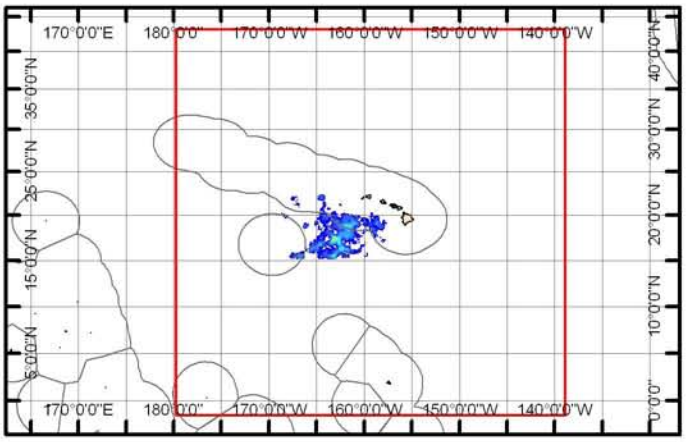
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

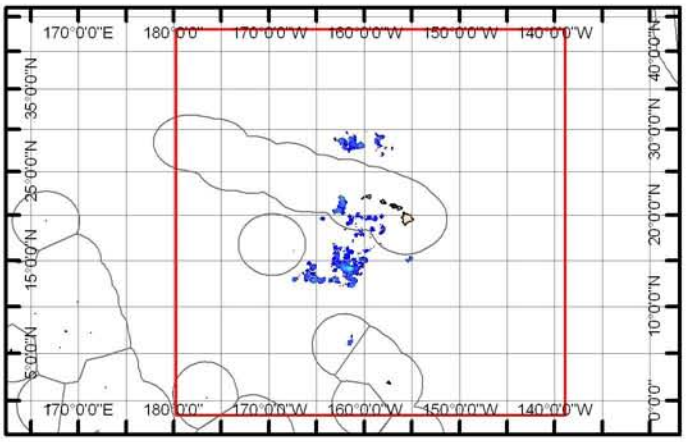
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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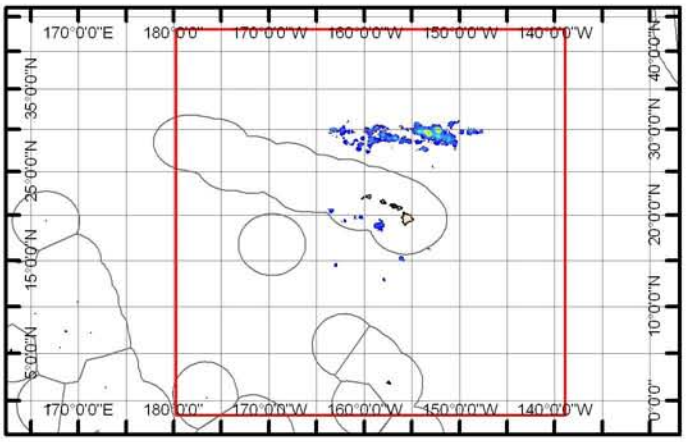
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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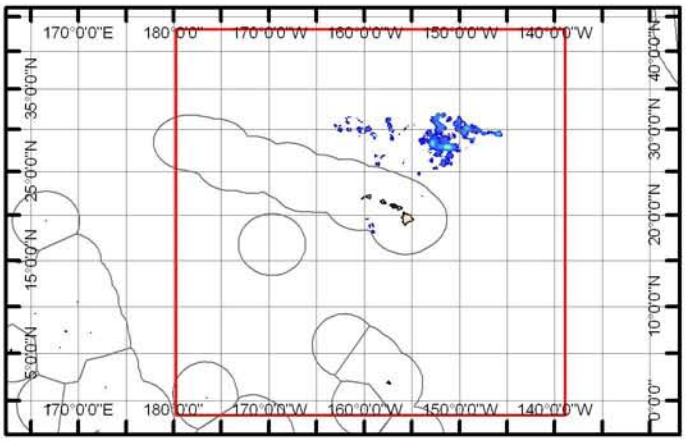
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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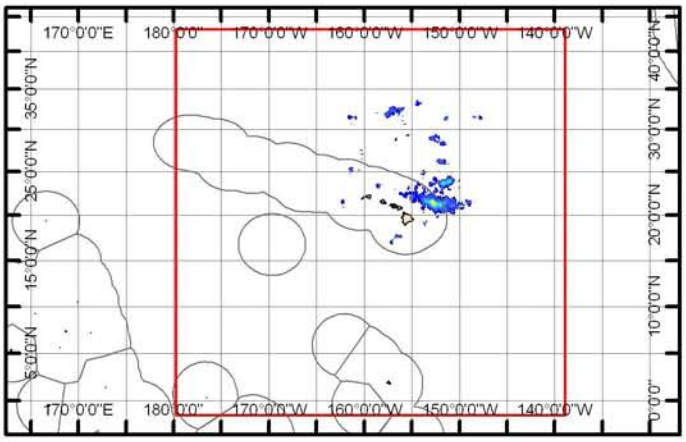
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

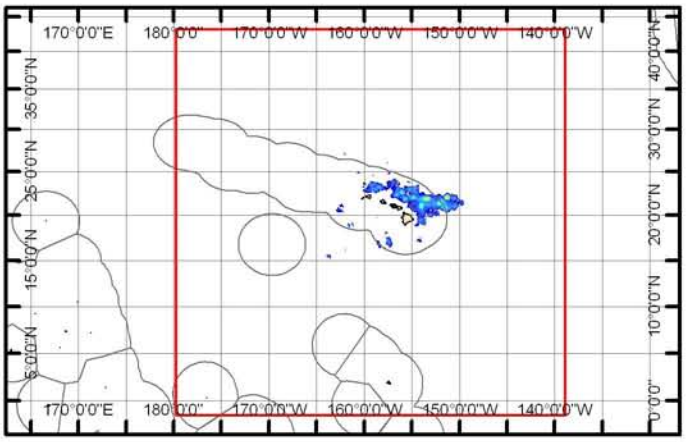
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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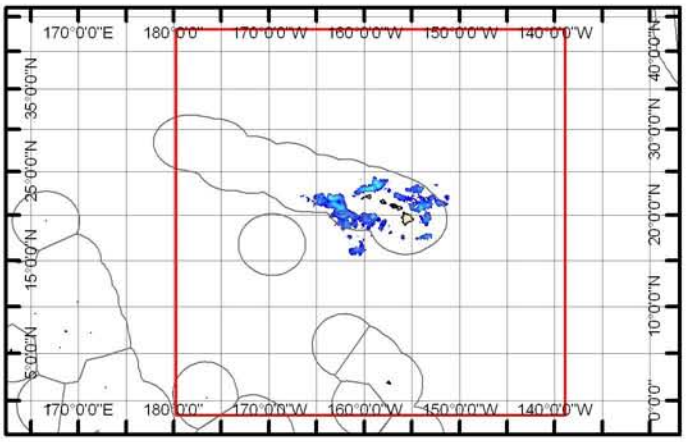
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2003

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

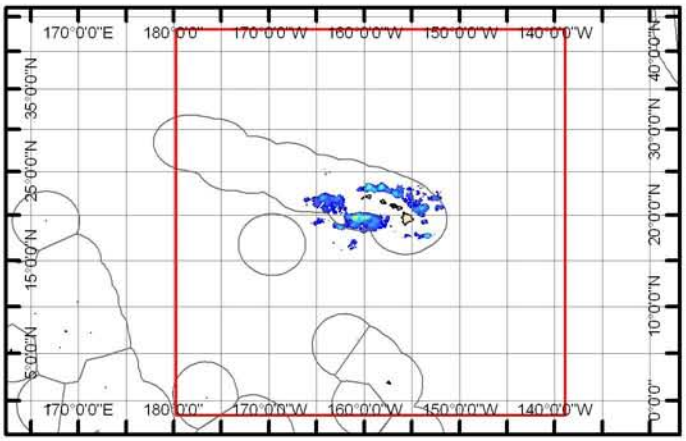
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

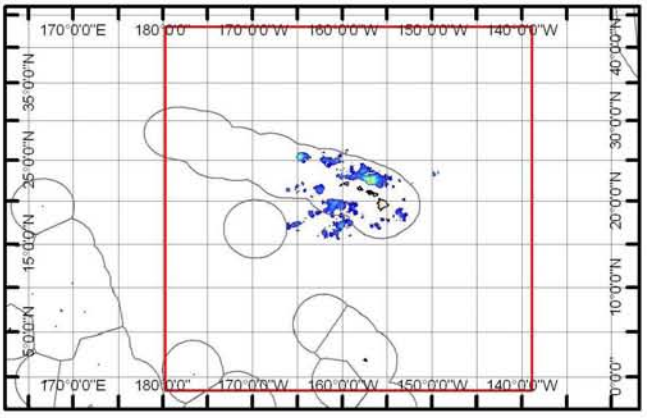
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

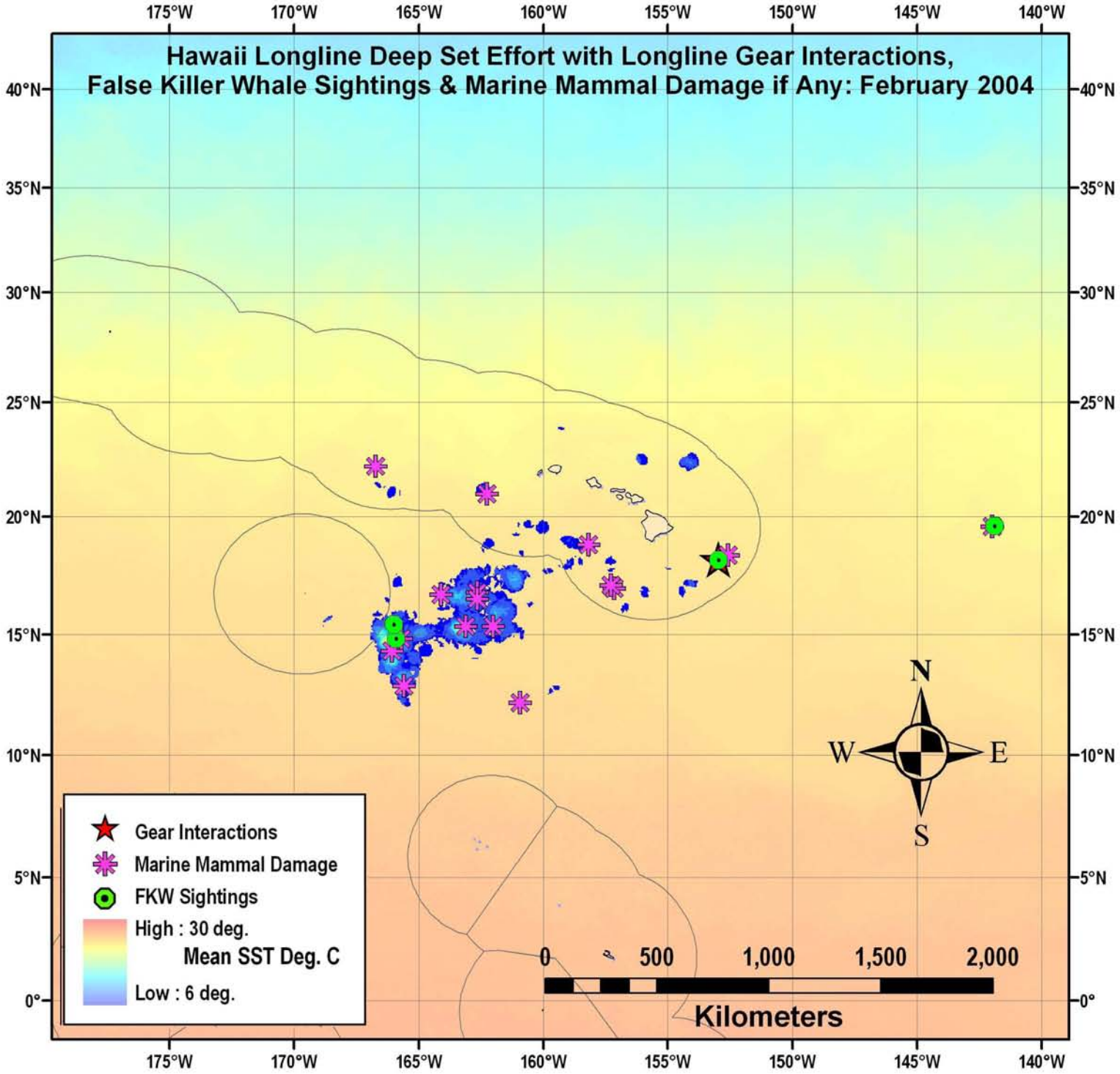
>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

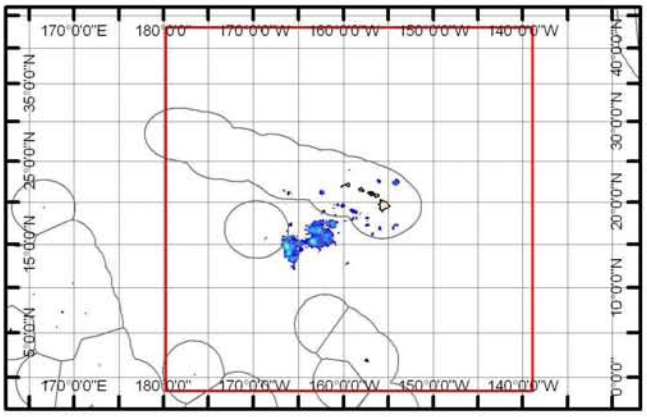
Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2004



HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

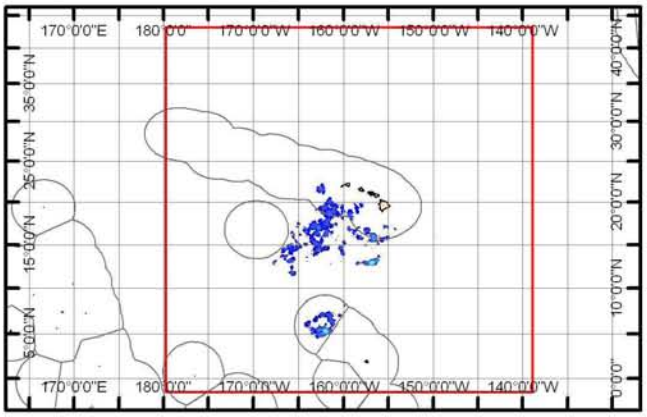
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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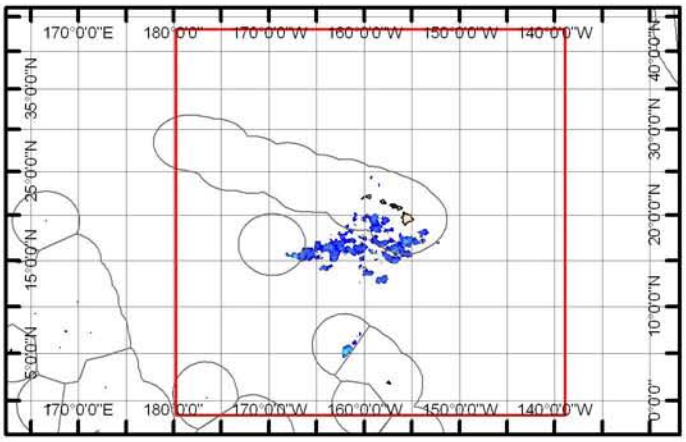
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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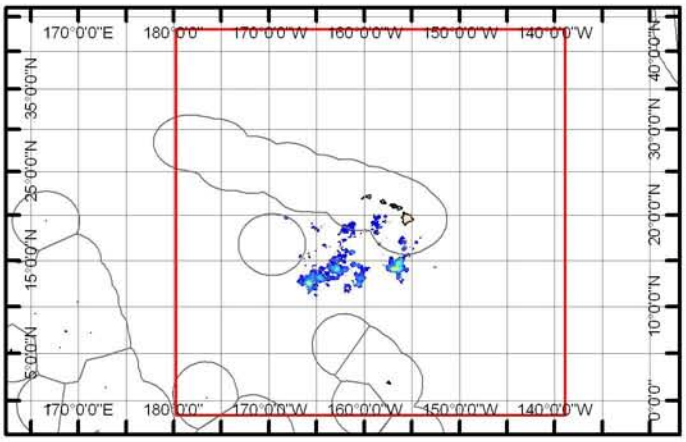
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

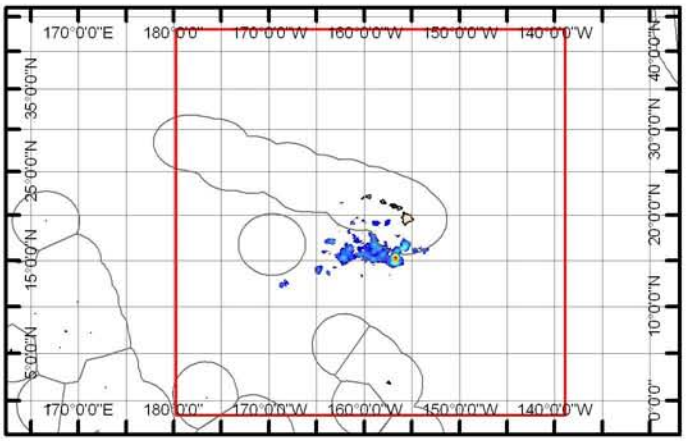
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

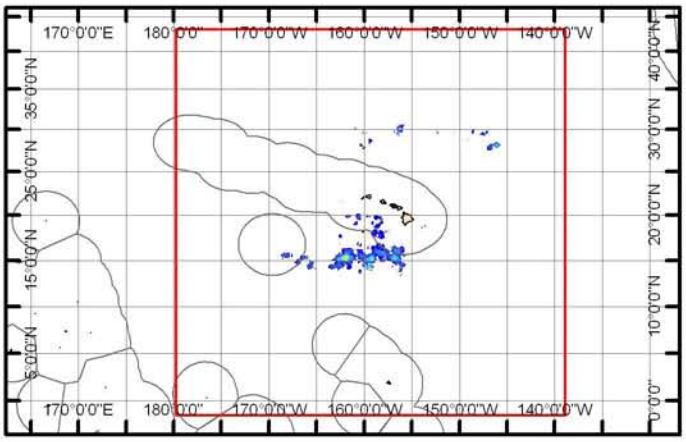
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

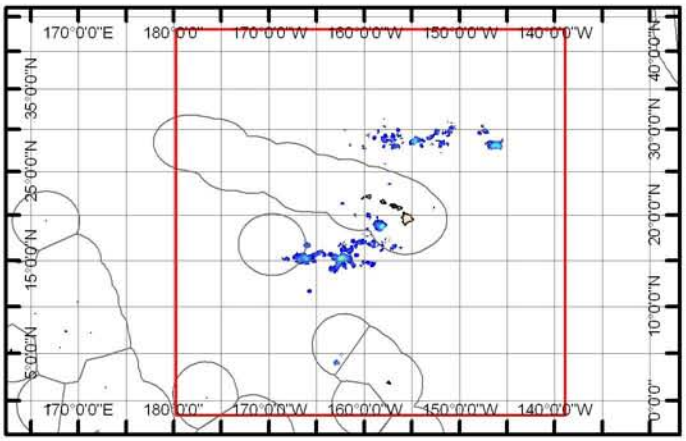
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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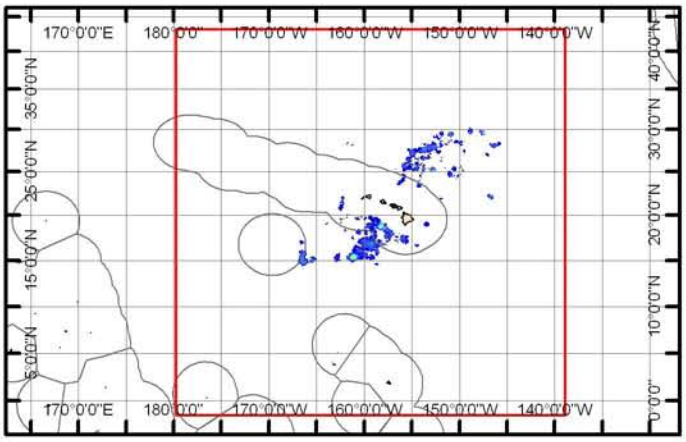
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
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Low : 6 deg.

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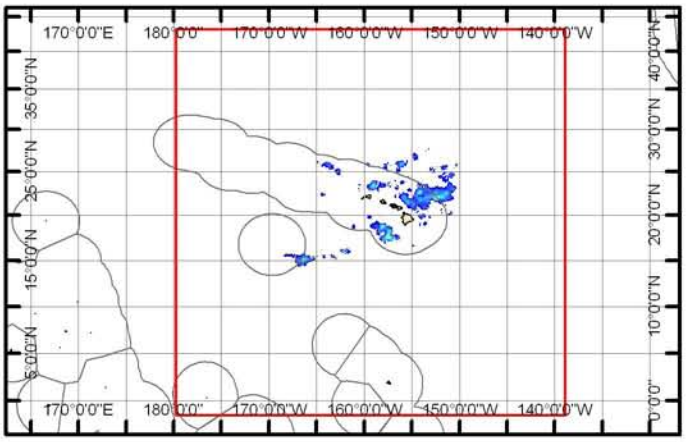
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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FKW Sightings
High : 30 deg.
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Low : 6 deg.

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Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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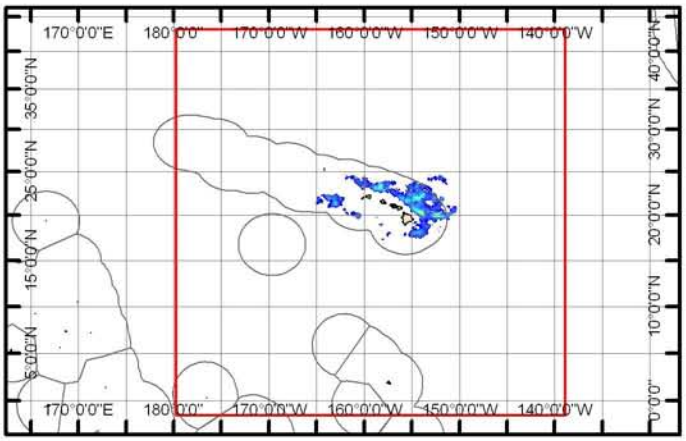
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2004

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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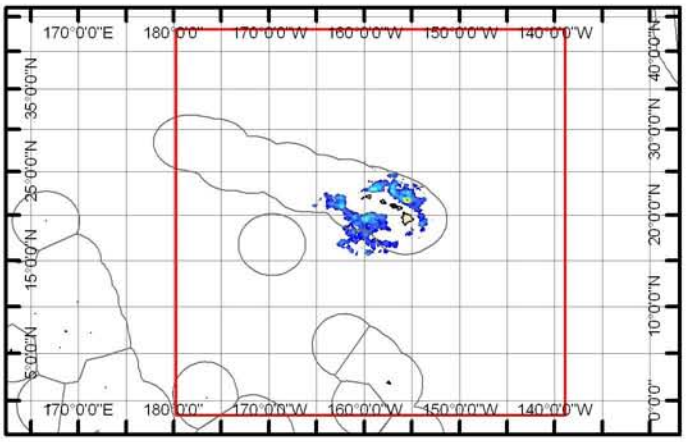
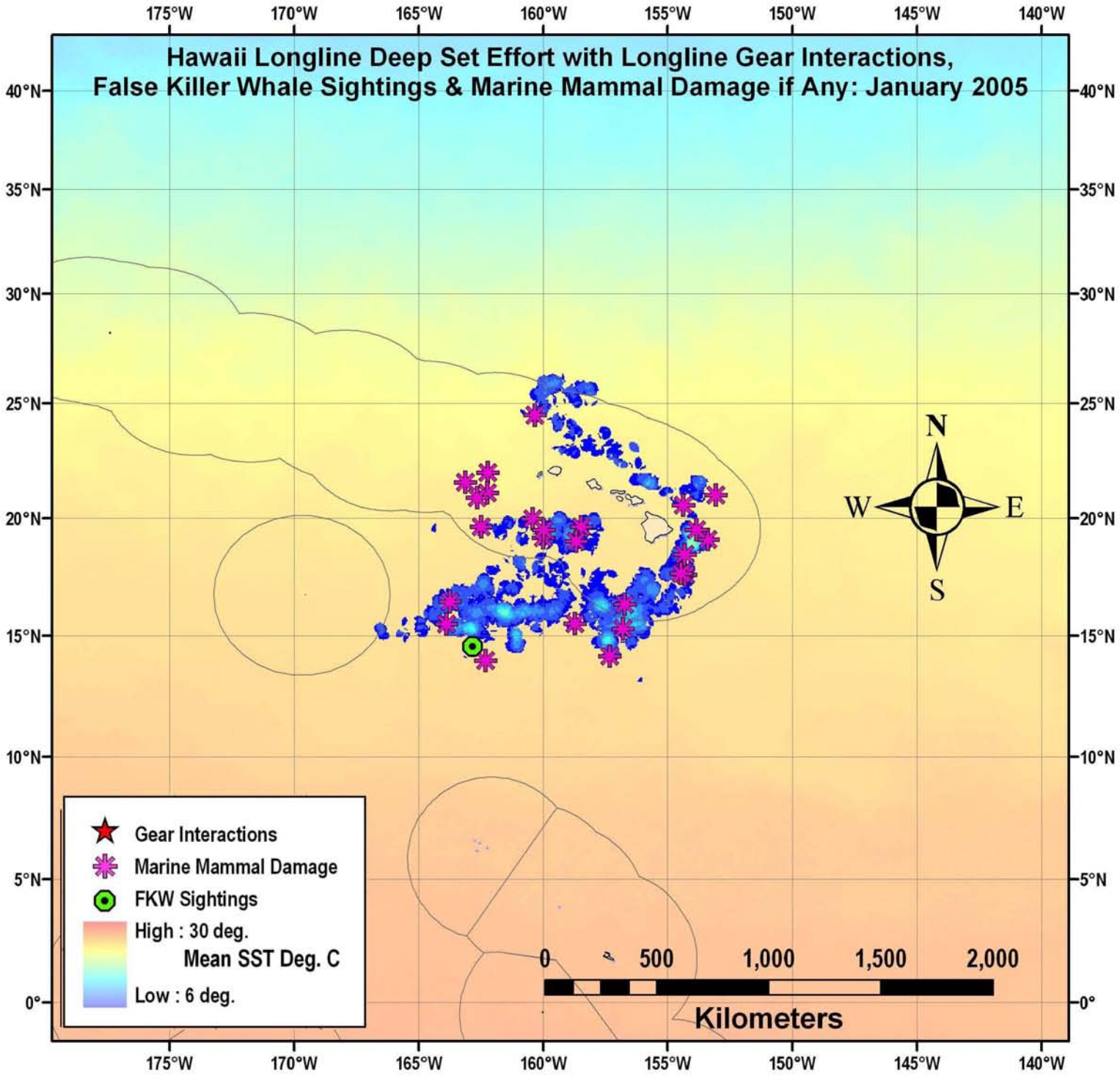
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

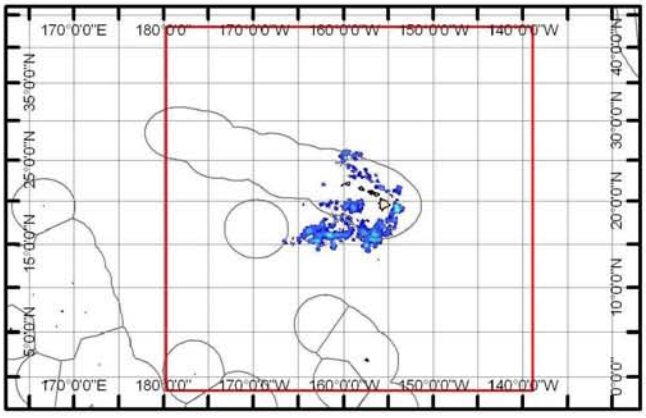
Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2005



HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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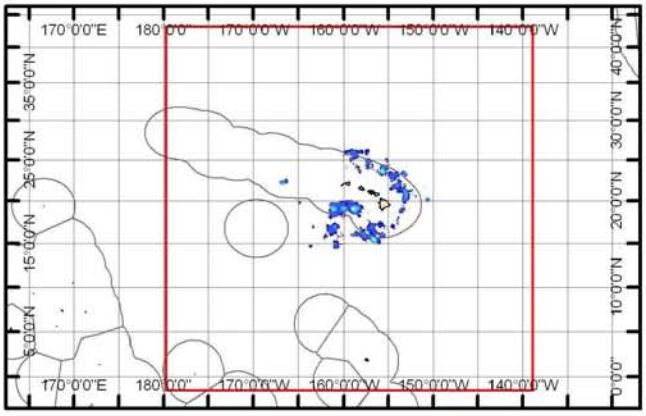
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

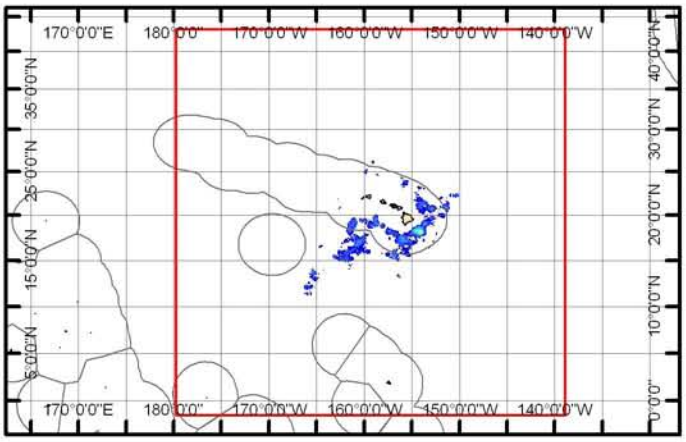
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

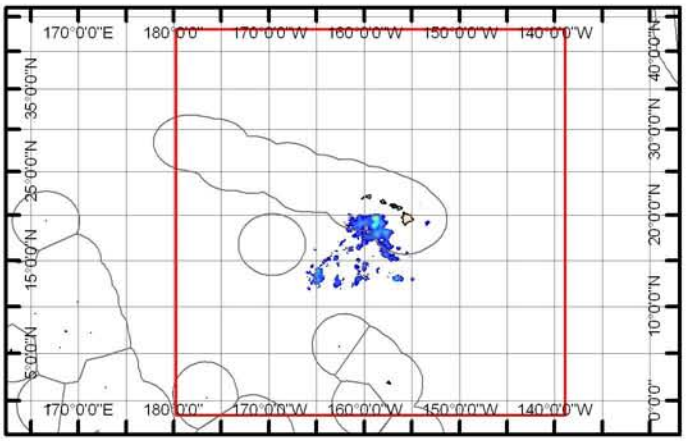
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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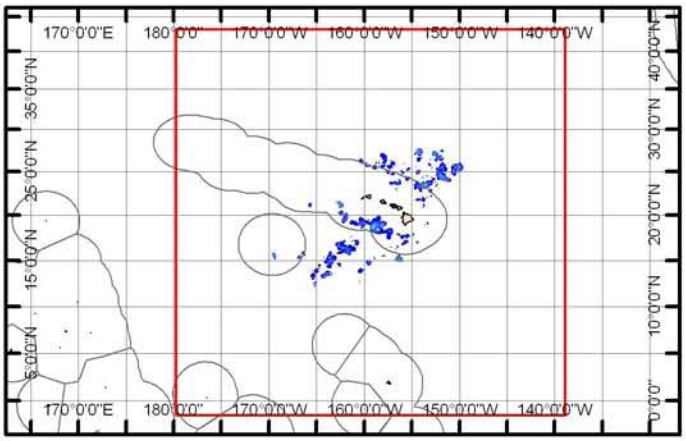
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

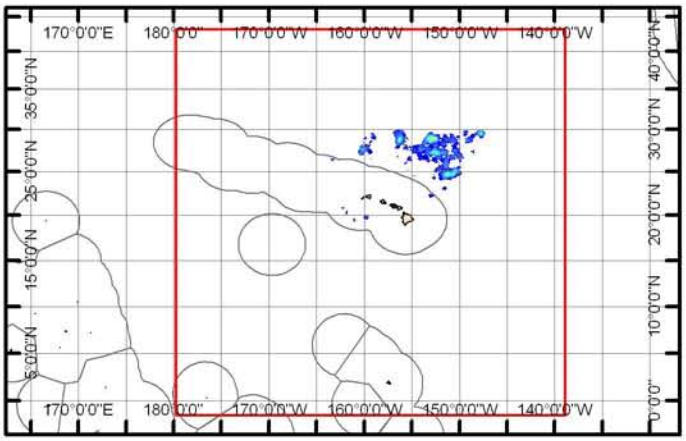
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
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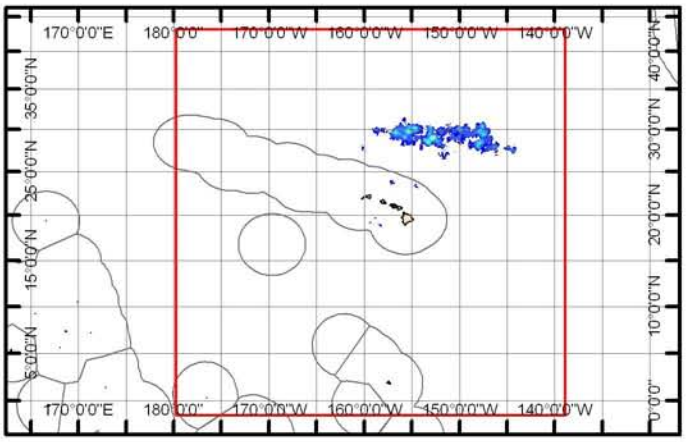

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
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High : 30 deg.
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Kilometers

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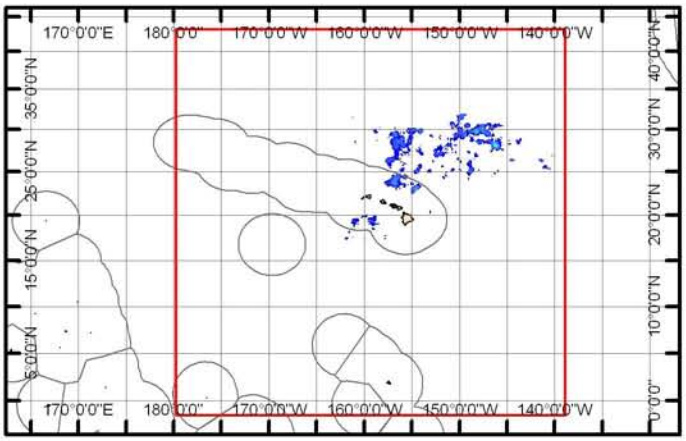

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Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

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Gear Interactions
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Kilometers

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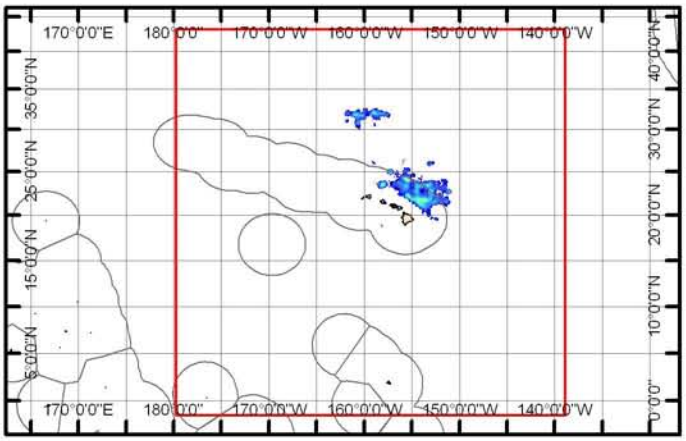

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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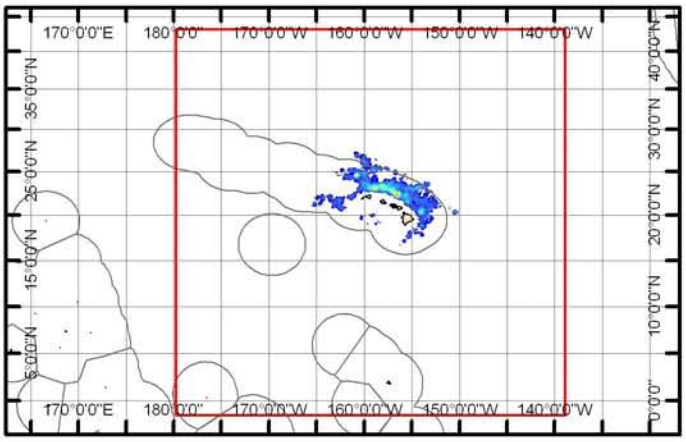

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Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2005

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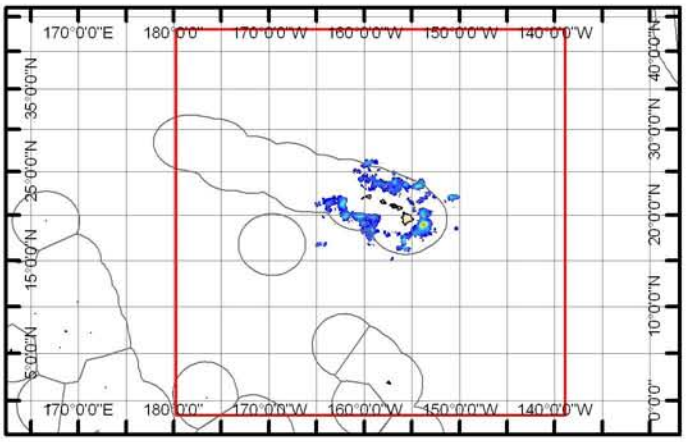
20.000-24.000	>44.000



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Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2005

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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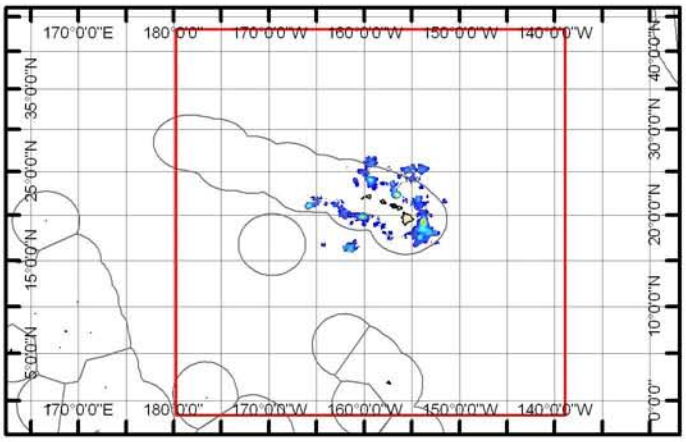
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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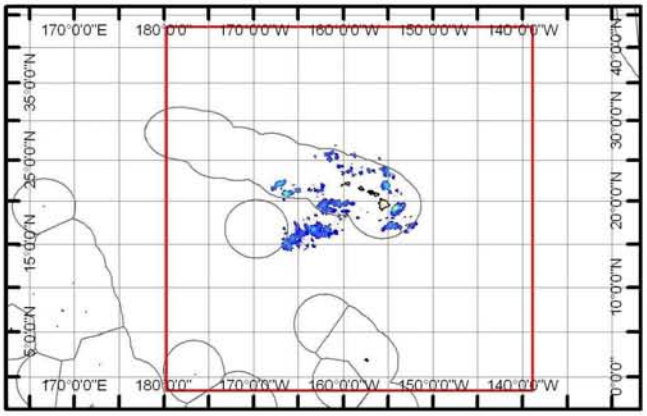
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

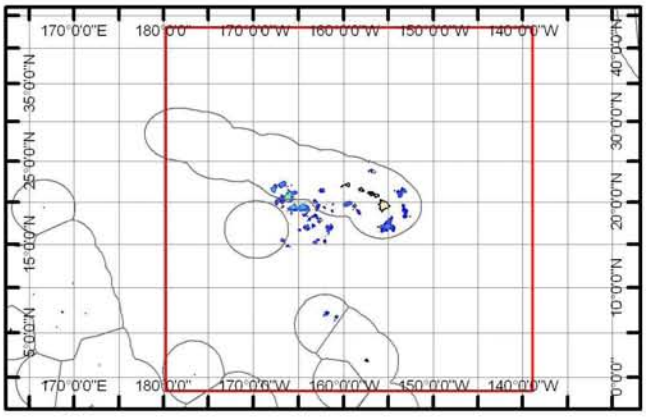
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

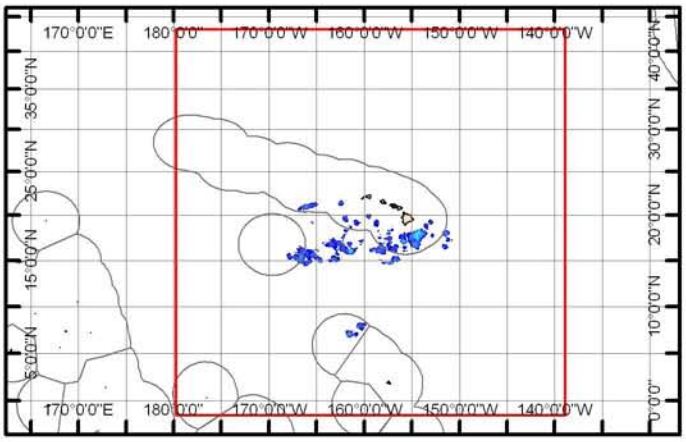
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

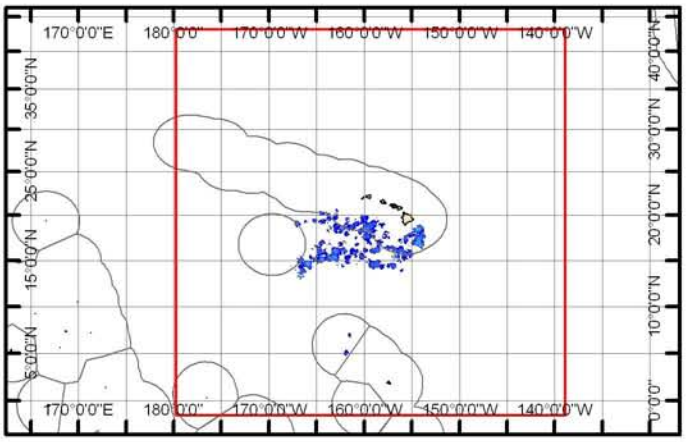
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

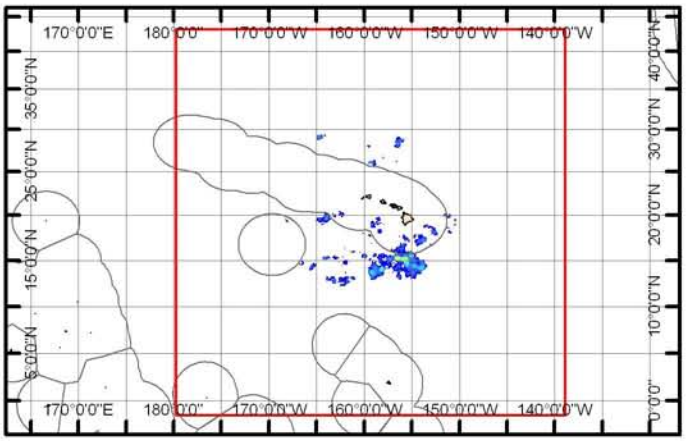
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

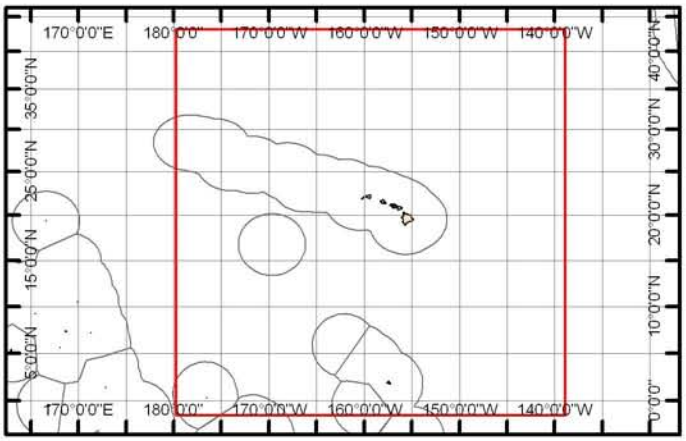
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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Kilometers

HOOKS per Sq. Km

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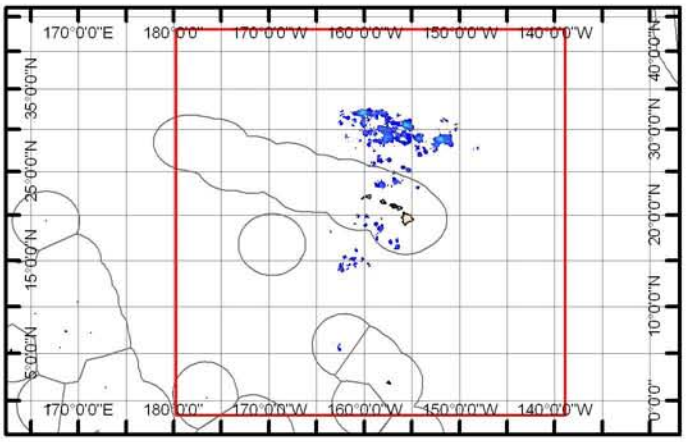
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
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High : 30 deg.
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Kilometers

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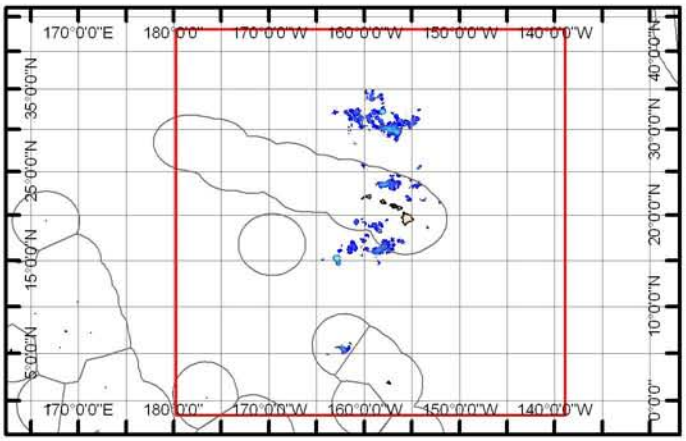

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
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Low : 6 deg.

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Kilometers

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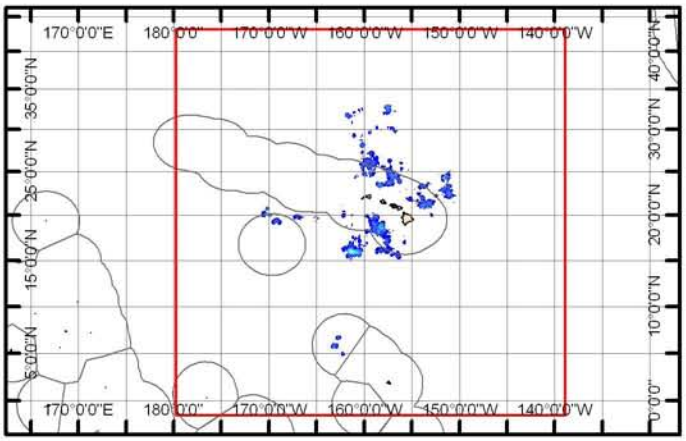

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
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Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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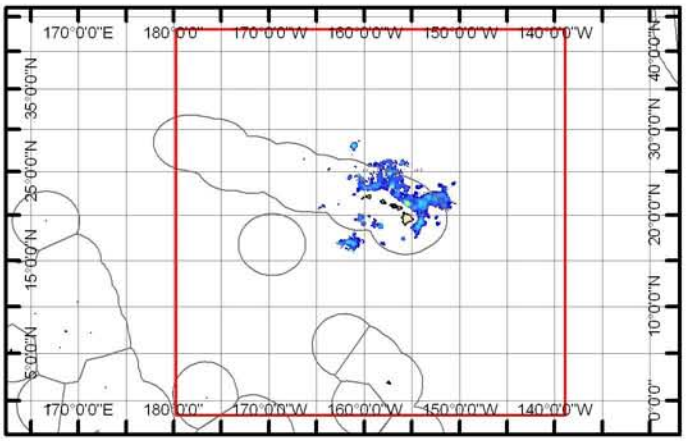
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

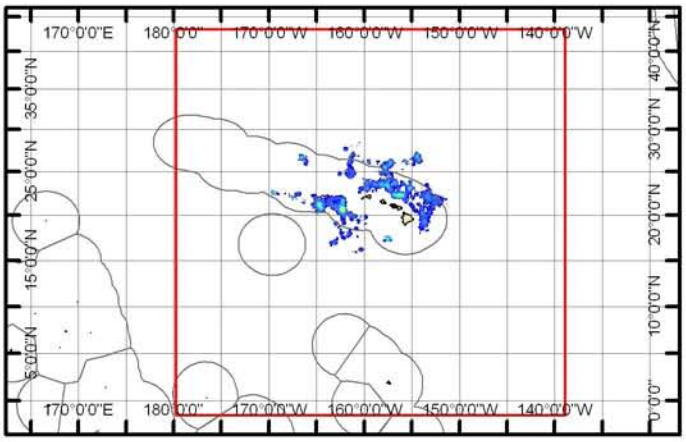
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2006

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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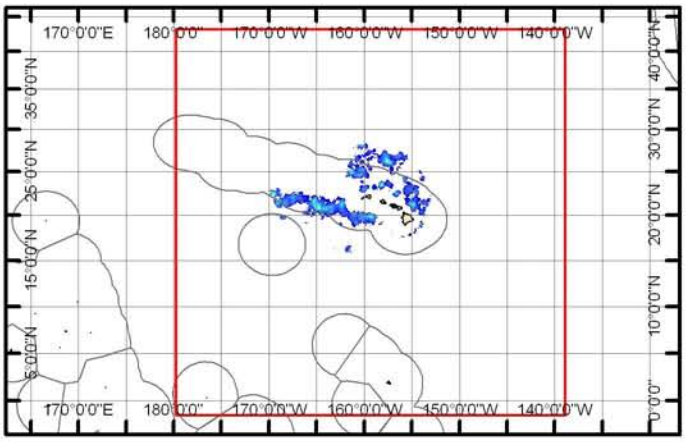
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

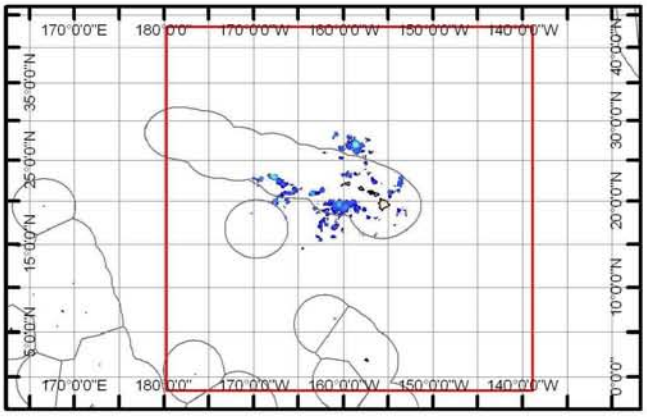
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N W E S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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12.000-16.000	36.000-40.000
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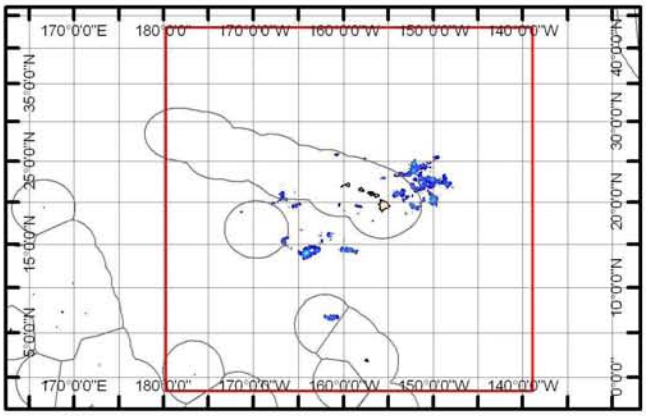

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
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0 500 1,000 1,500 2,000
Kilometers

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12.000-16.000	36.000-40.000
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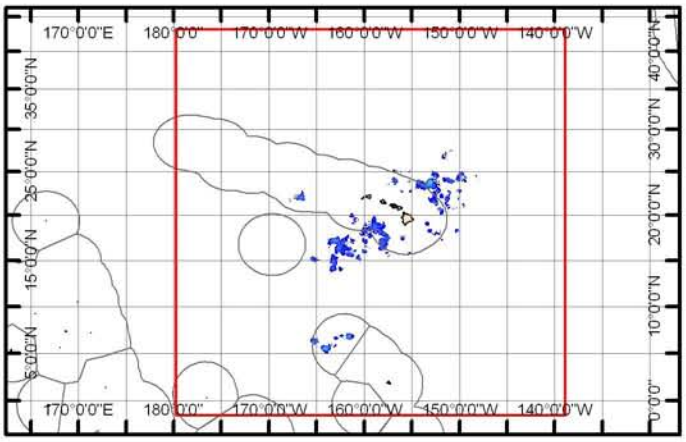

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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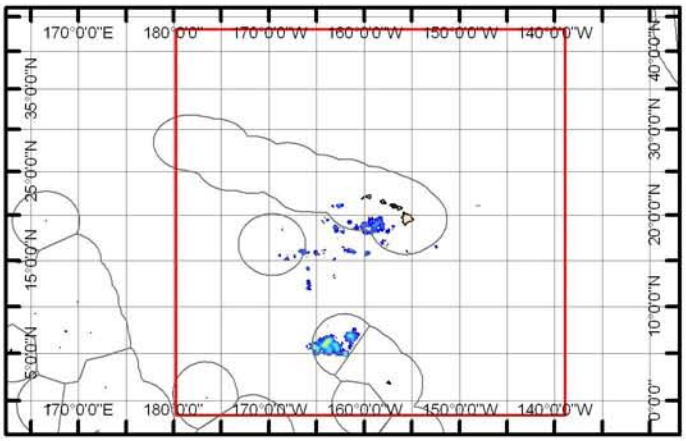

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
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HOOKS per Sq. Km

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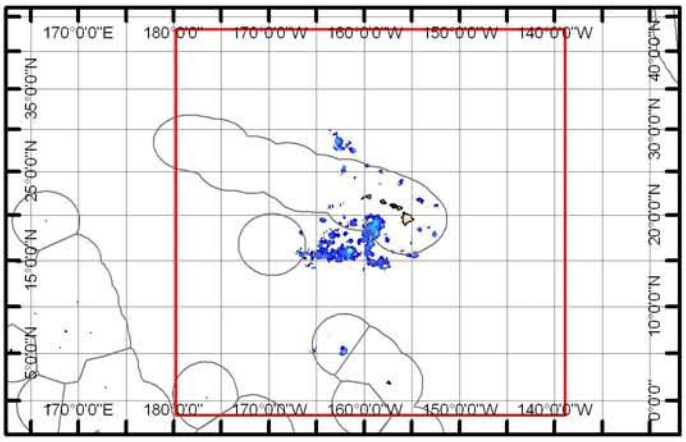

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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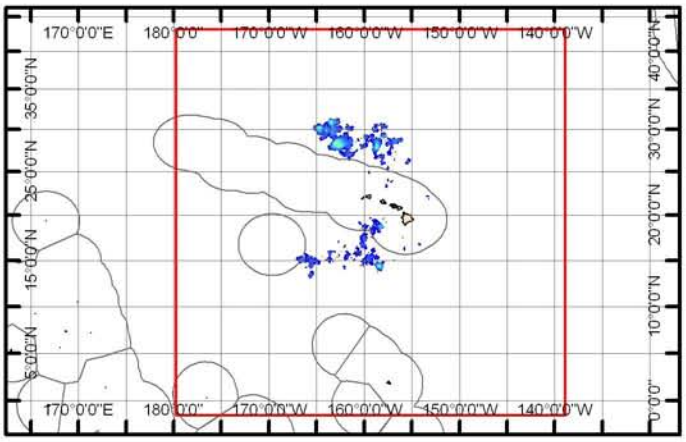

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
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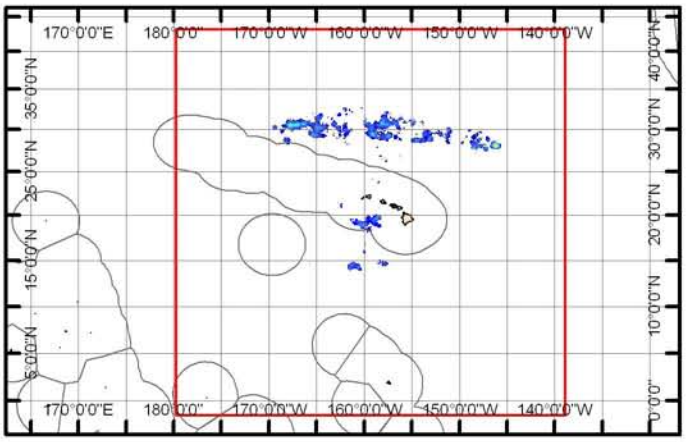

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
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High : 30 deg.
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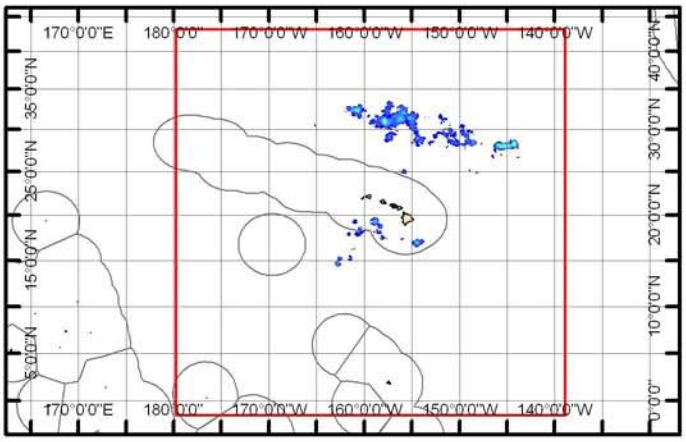
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

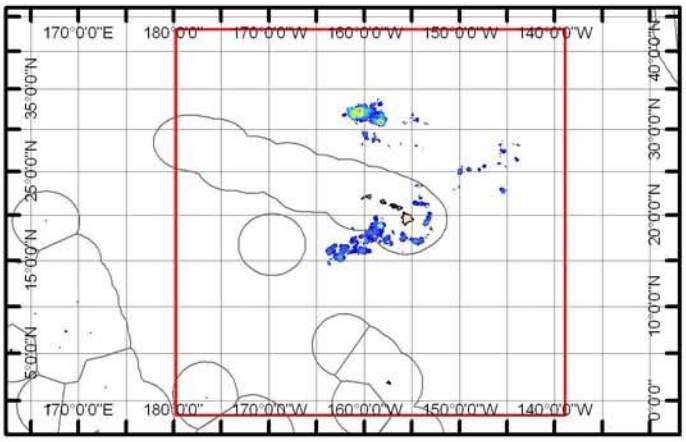
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

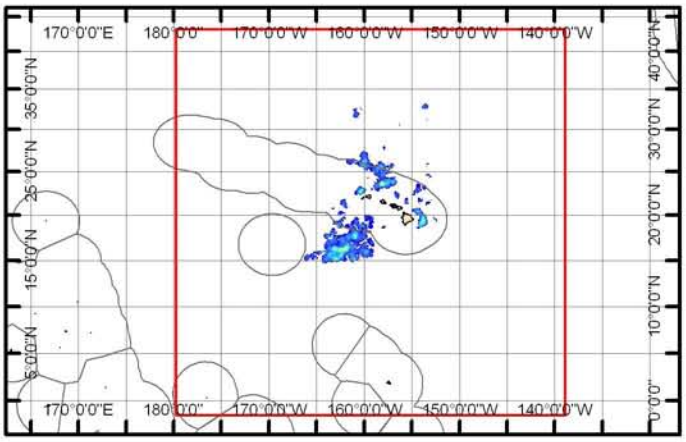
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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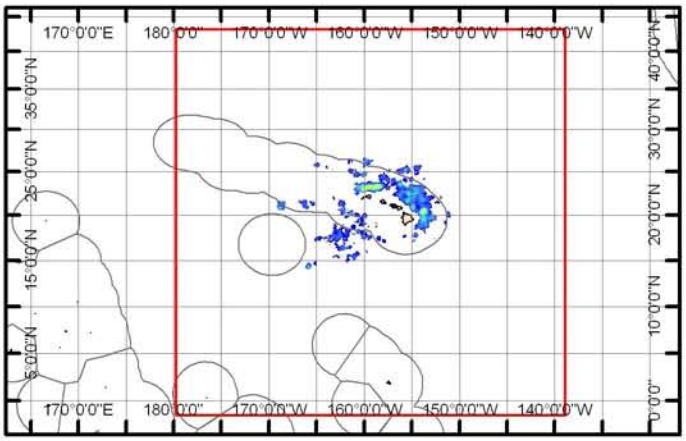
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2007

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

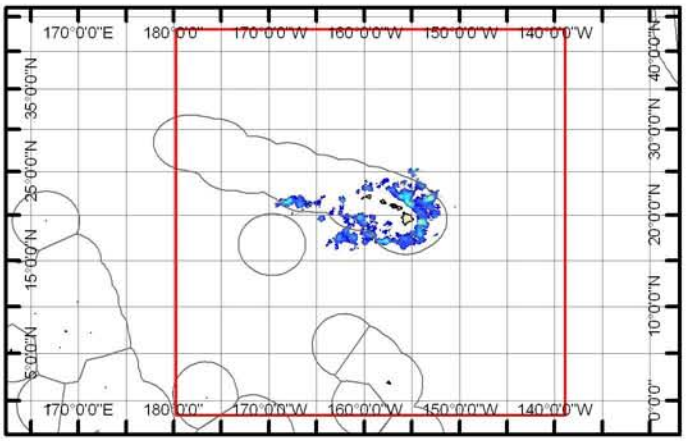
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

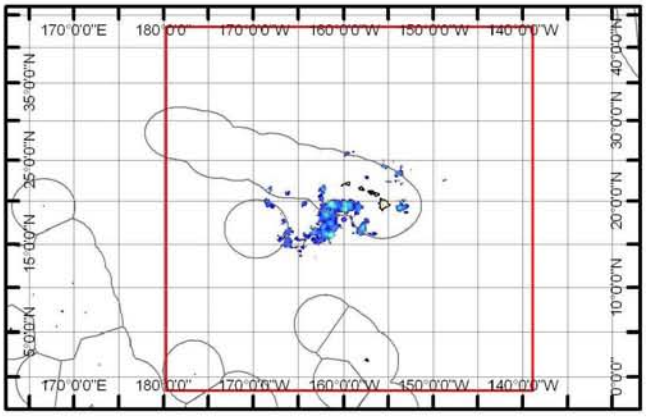
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

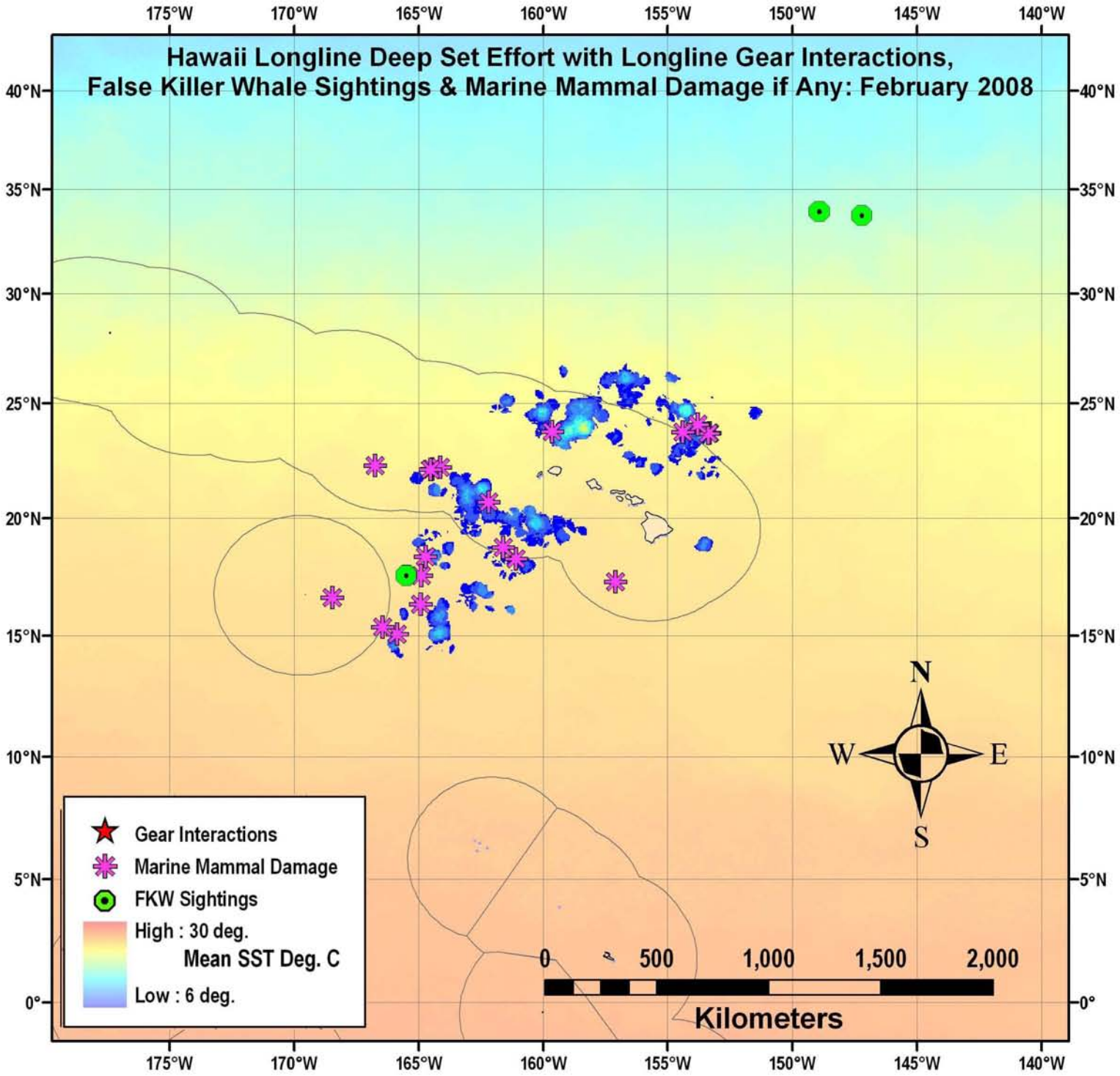
>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

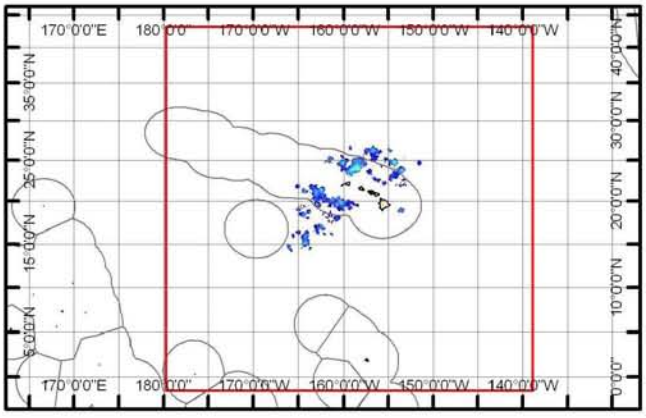
Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2008



HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

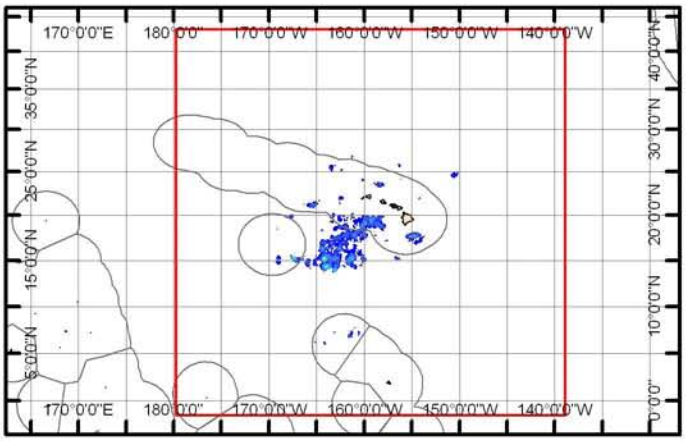
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

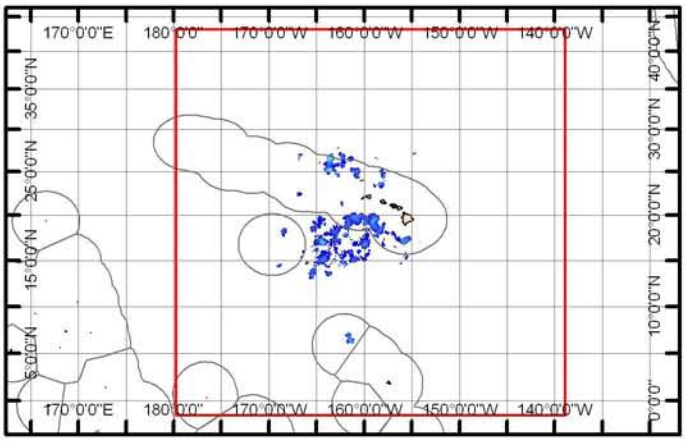
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

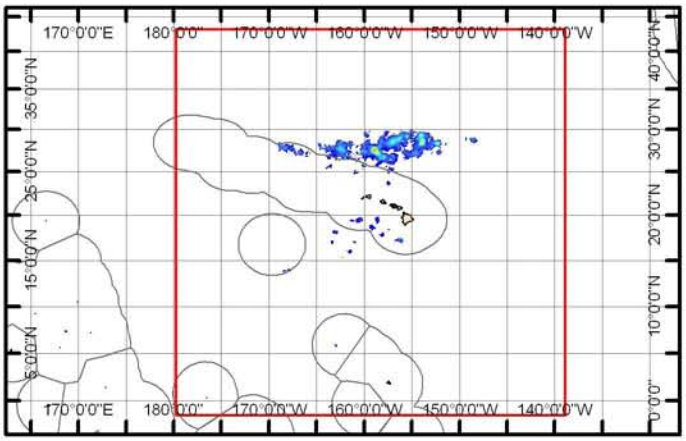
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N W E S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

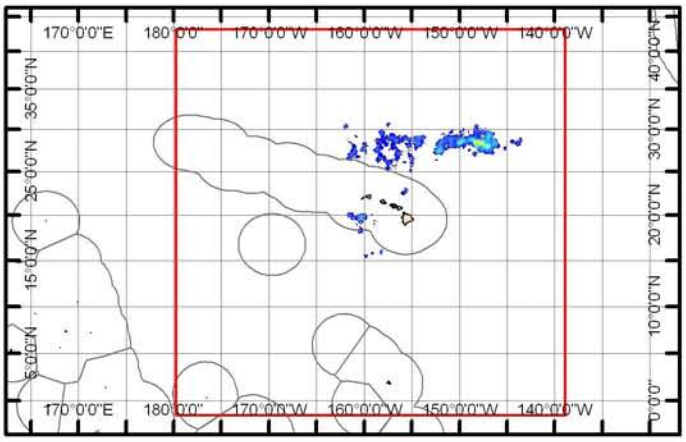
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

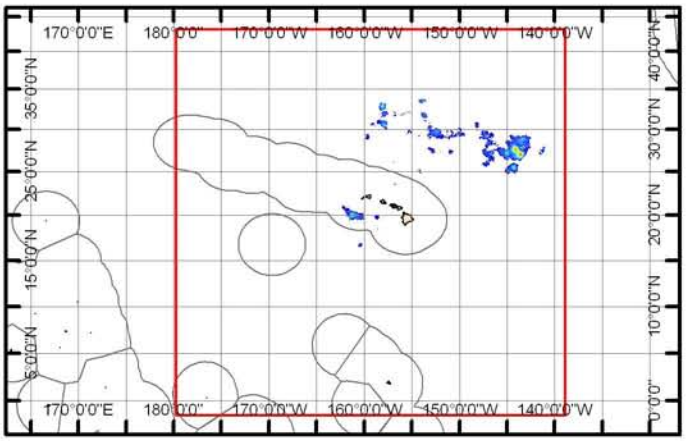
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

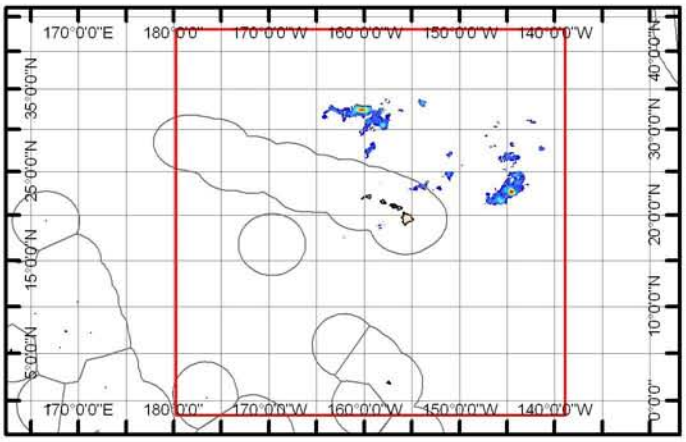
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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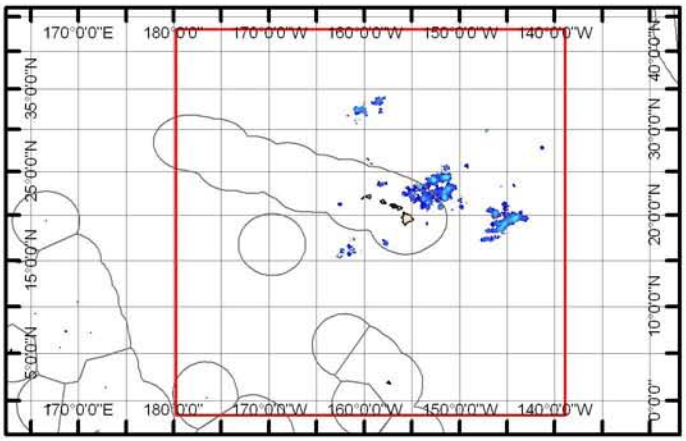
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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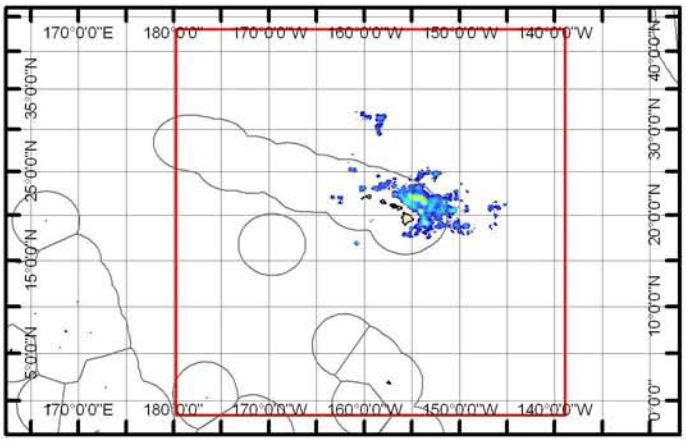
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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4.000-8.000	28.000-32.000
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12.000-16.000	36.000-40.000
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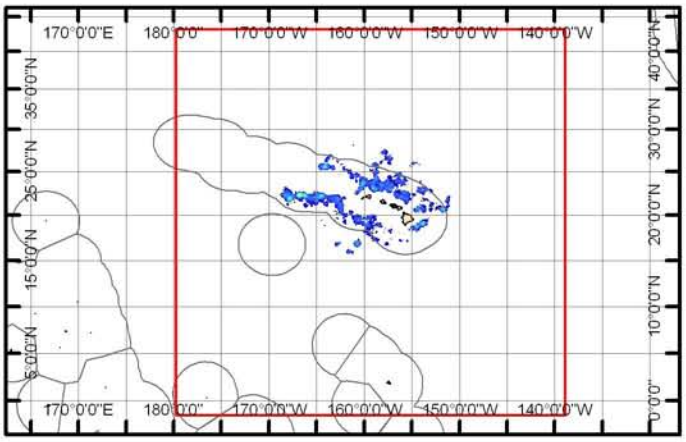
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2008

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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Kilometers

HOOKS per Sq. Km

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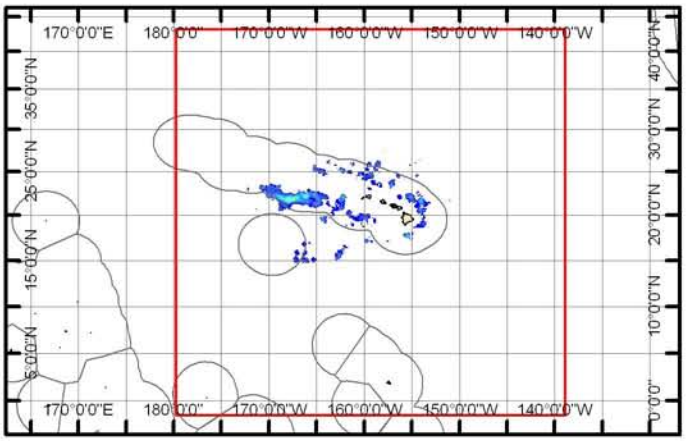
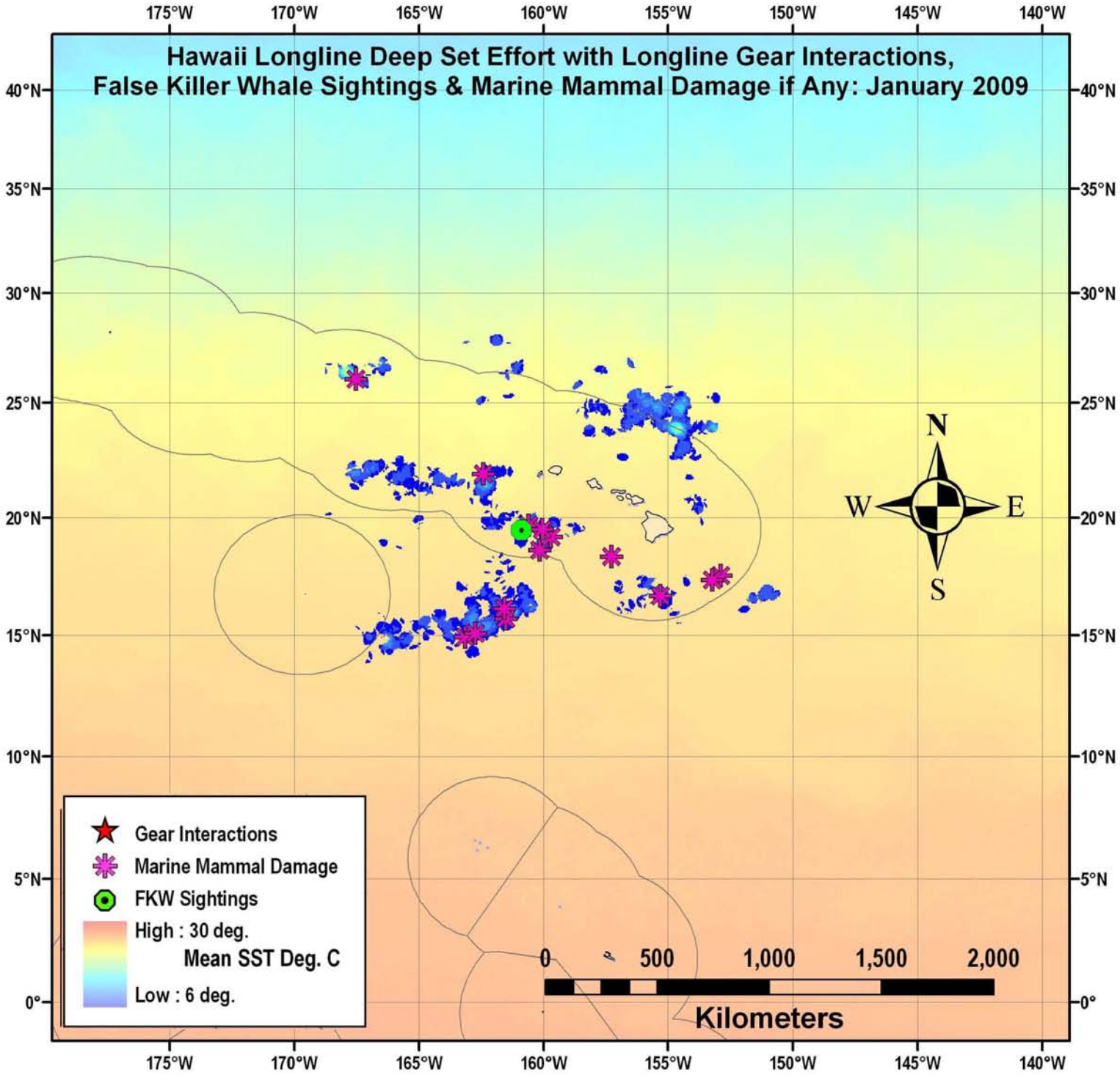
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

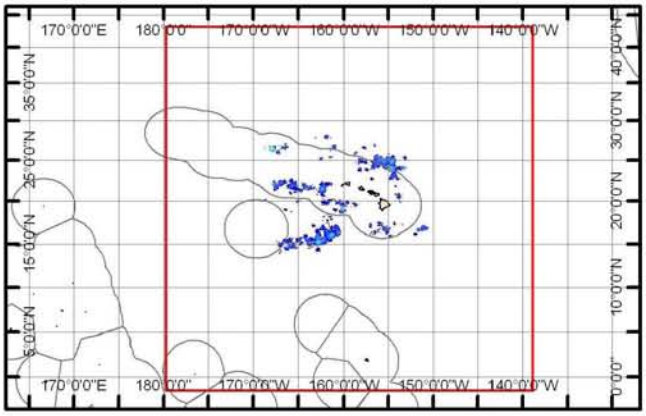
Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2009



HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

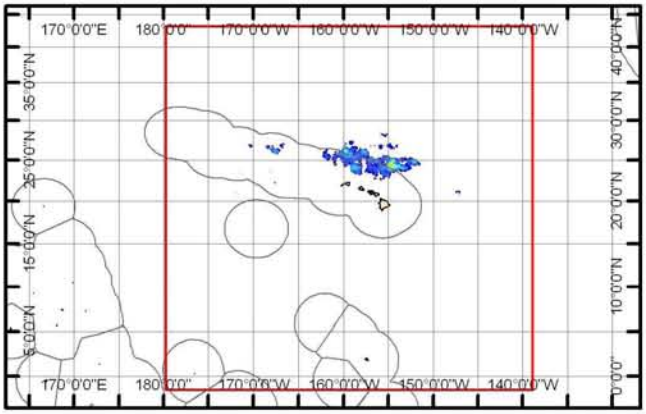
Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

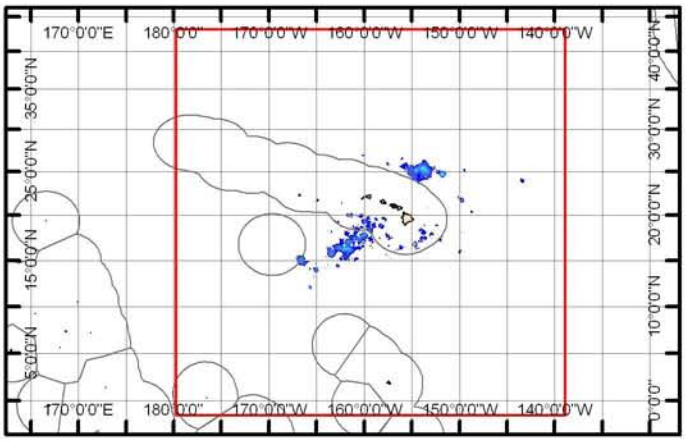
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: April 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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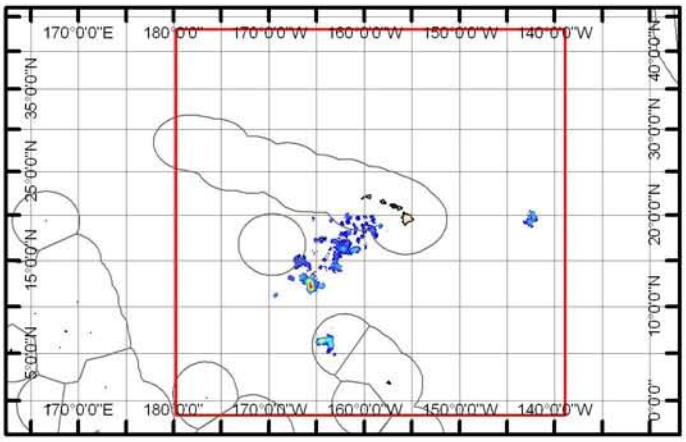
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: May 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
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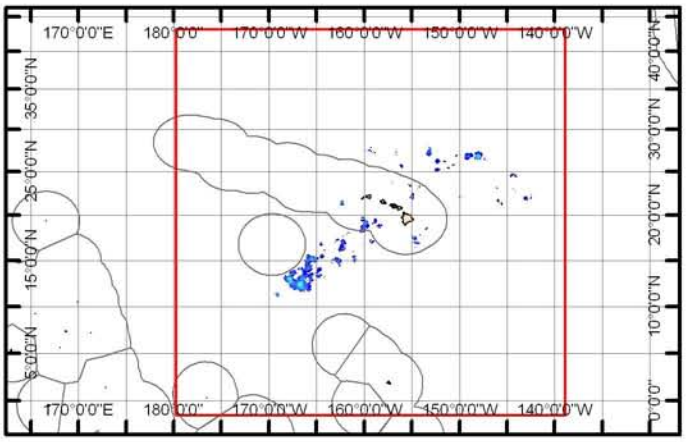
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: June 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

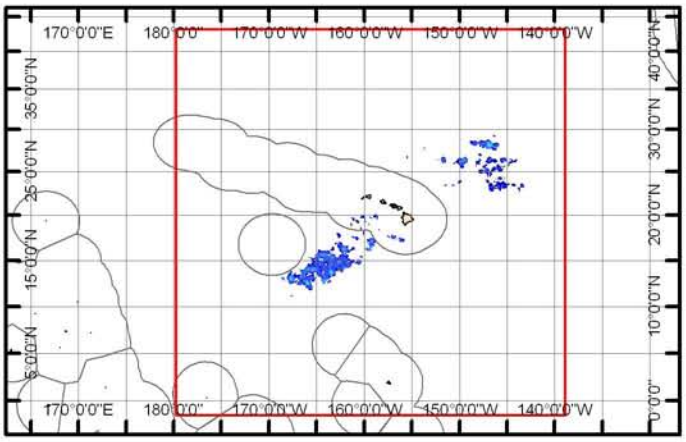
N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

>0.000-4.000	24.000-28.000
4.000-8.000	28.000-32.000
8.000-12.000	32.000-36.000
12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: July 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

0 500 1,000 1,500 2,000
Kilometers

HOOKS per Sq. Km

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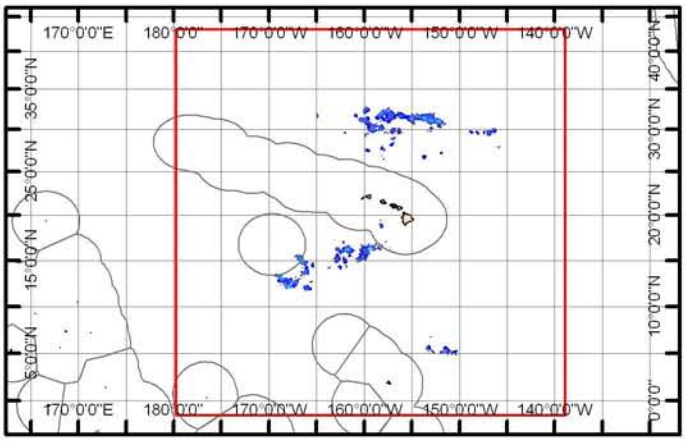
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: August 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

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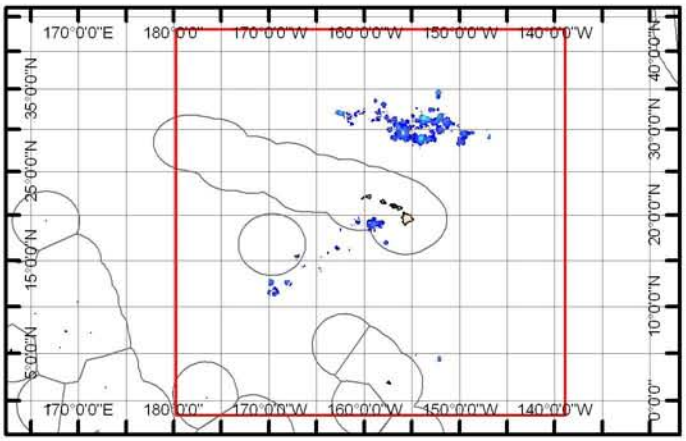
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: September 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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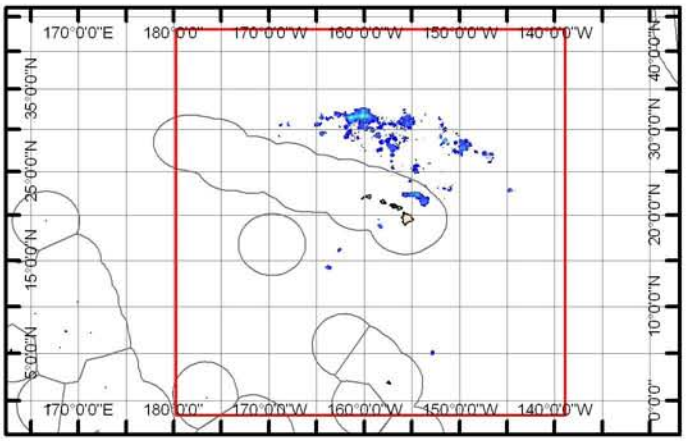

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: October 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
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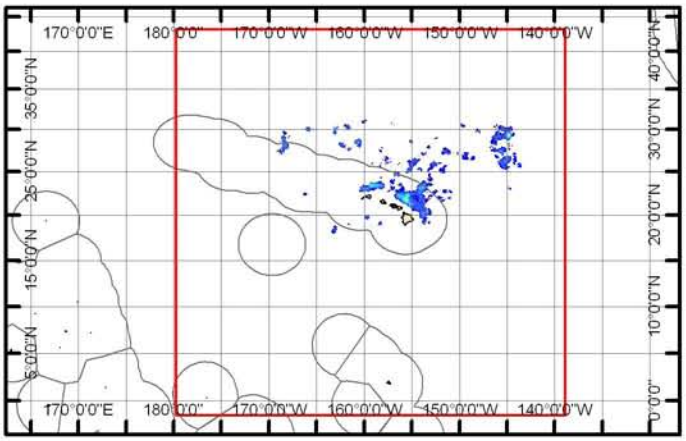

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: November 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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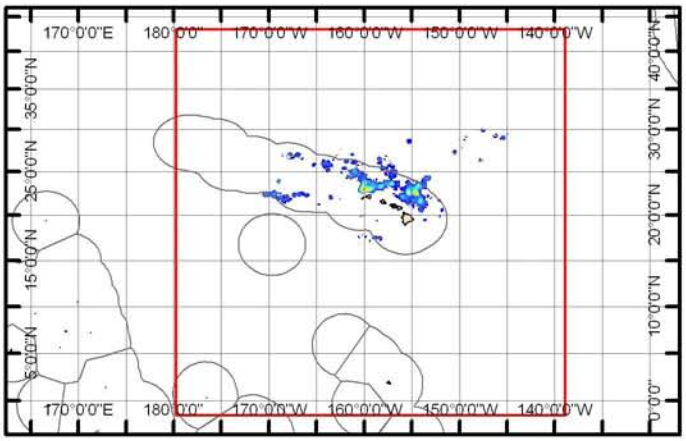

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: December 2009

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
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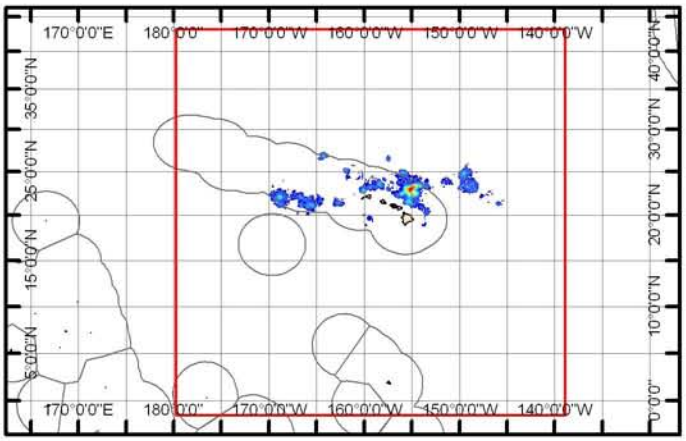
16.000-20.000	40.000-44.000
20.000-24.000	>44.000



Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: January 2010

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

N W E S

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
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Kilometers

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12.000-16.000	36.000-40.000
16.000-20.000	40.000-44.000
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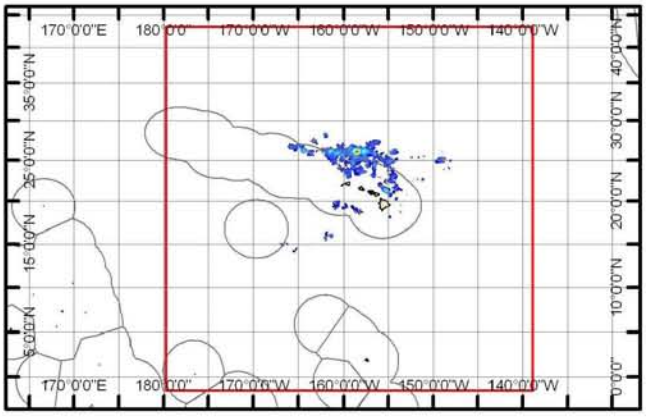

Map Source NOAA PIFSC/FMD: MKL (5/17/10)

Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: February 2010

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

Gear Interactions
Marine Mammal Damage
FKW Sightings
High : 30 deg.
Mean SST Deg. C
Low : 6 deg.

N
W E
S

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Kilometers

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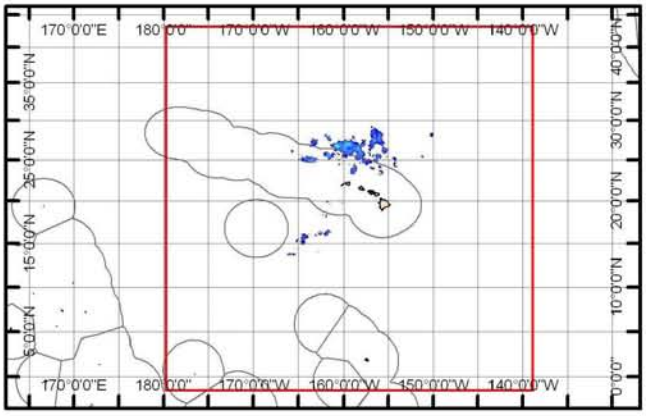

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Map produced using Fishery Analyst ArcGIS application by Mappamondo GIS

Hawaii Longline Deep Set Effort with Longline Gear Interactions, False Killer Whale Sightings & Marine Mammal Damage if Any: March 2010

175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W

40°N 35°N 30°N 25°N 20°N 15°N 10°N 5°N 0°

Gear Interactions
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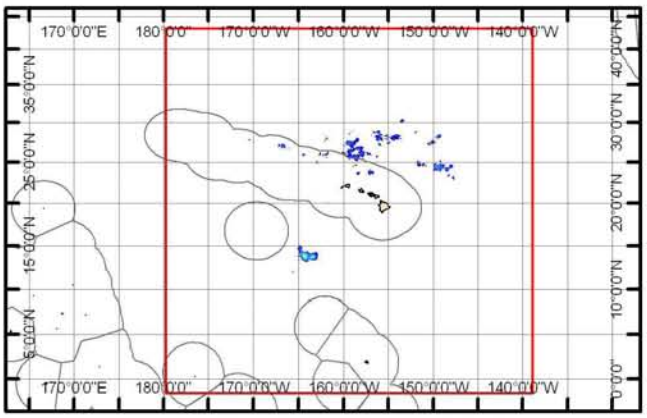

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