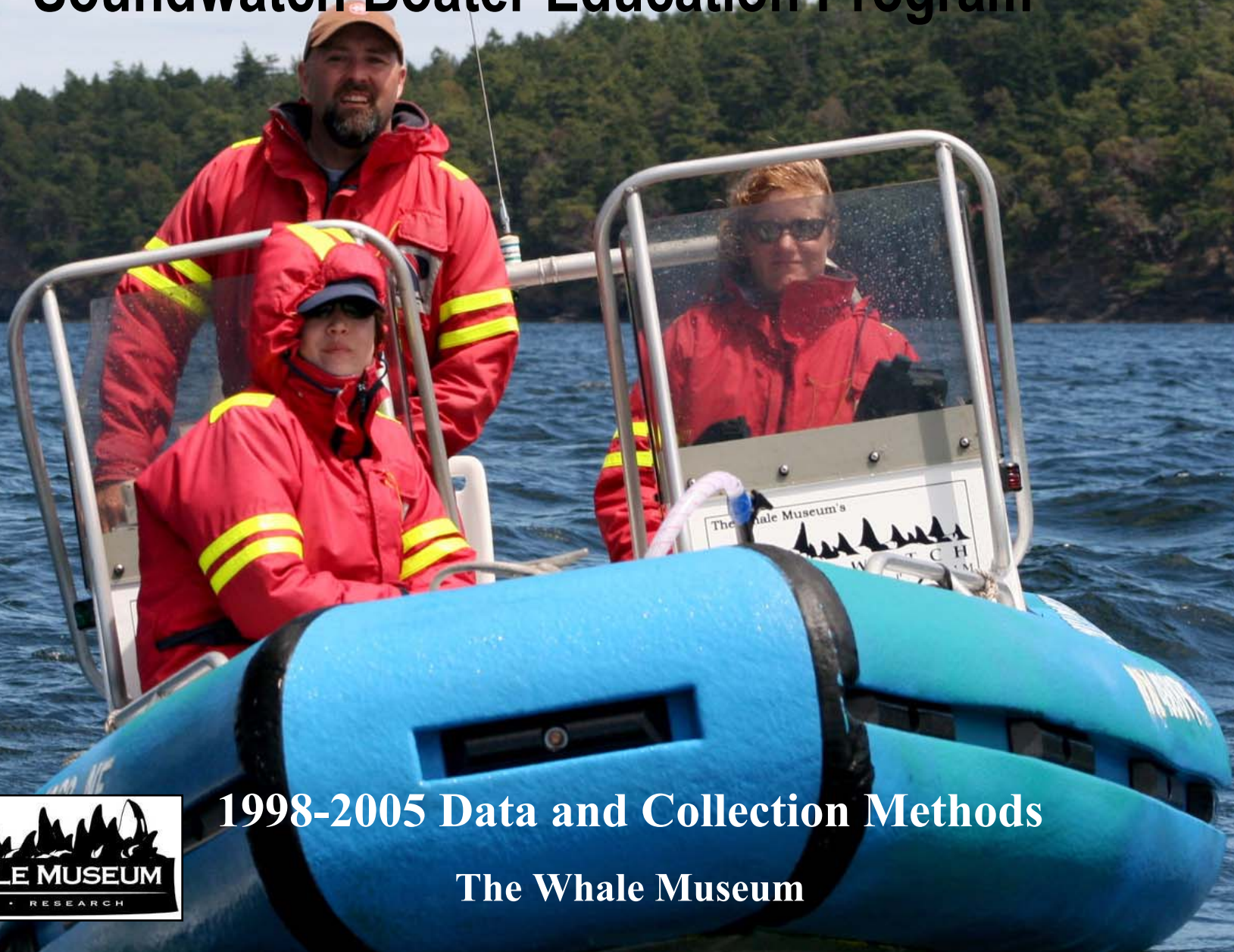


The **Whale** Museum's Soundwatch Boater Education Program



1998-2005 Data and Collection Methods

The Whale Museum

The **Whale** Museum's Soundwatch Boater Education Program



Promotes responsible stewardship of the Salish Sea through the development, distribution, and implementation of best practice guidelines for marine wildlife by residents, visitors and commercial users.



The **Whale** Museum's Soundwatch Boater Education Program

Program Objectives:

**Educate boaters on the
best practices for
viewing wildlife before
they leave the shore.**



The **Whale** Museum's Soundwatch Boater Education Program



**Reinforce the learning
experience in the
actual context where**



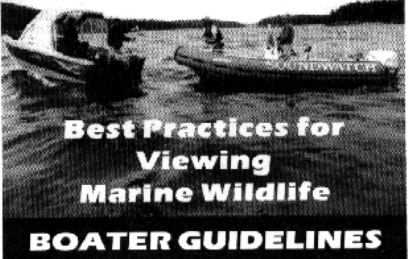

The **Whale** Museum's Soundwatch Boater Education Program

**Provide a scientific
platform to monitor
vessel activities around
marine wildlife.**




The **Whale** Museum's Soundwatch Boater Education Program

**Develop and evaluate
community-based
voluntary guidelines.**



**Best Practices for
Viewing
Marine Wildlife
BOATER GUIDELINES**



a stewardship program of
The Whale Museum

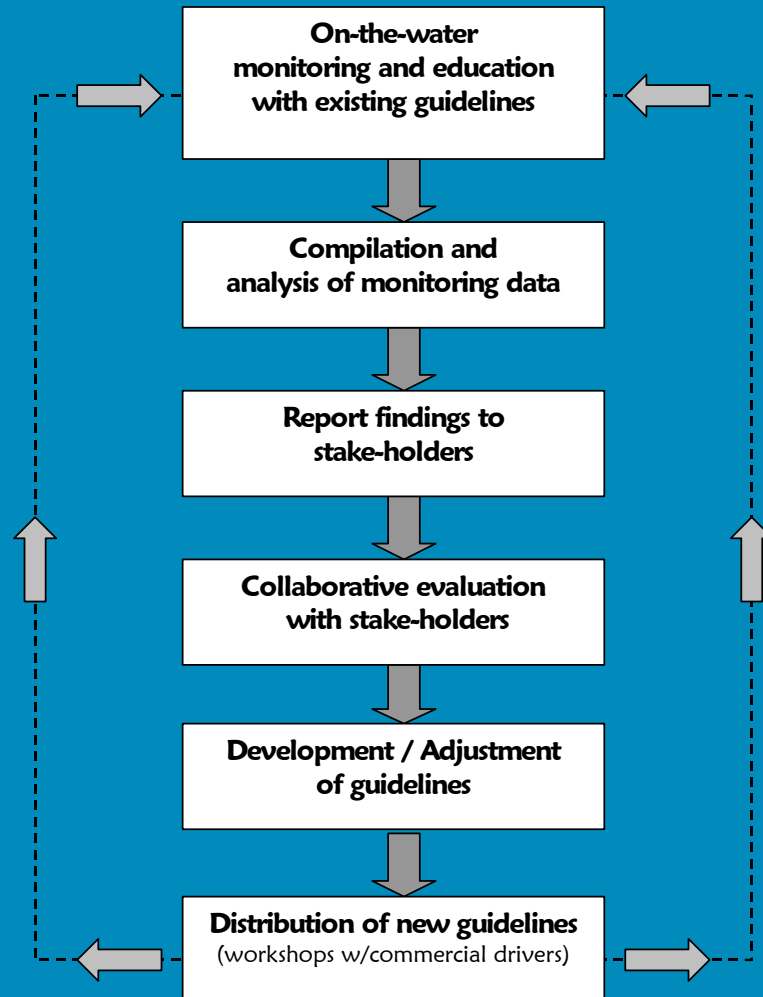
PO Box 945 • Friday Harbor, WA • 98250
1.800.946.7227 • www.whale-museum.org

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**Soundwatch
Community-based
Adaptive
Management
Model:
Best Practice
Guideline
Development,
Distribution,
Implementation,
Evaluation,
Adjustment**

Soundwatch Adaptive Management Model



Soundwatch Daily procedure for prioritizing outreach activities and data collection

Soundwatch strives first and foremost to be a good model for the general boating community. Safety for the vessel, passengers and marine wildlife are paramount.

1. Keep track of whale/wildlife movements.
2. Intercept and contact vessels in area of known whale/wildlife activity to prevent potential disturbances.
3. Every half-hour do a count of vessels within a $\frac{1}{2}$ mile radius of where all known whale activity is occurring according to vessel type. Record whale identification and basic activities.
4. Continuously observe all vessel activities near whales, whale travel patterns and activities to determine if vessel behavior is contrary to voluntary guidelines and/or MMPA. Record all such behaviors as incidents.
5. Observe vessel activities within various marine protection areas.

The Whale Museum's Soundwatch Boater Education Program Data Collection Methods

Data on vessel and whale activities is collected by Soundwatch crews on the hour and half hour. Monitoring of commercial and private whale watch vessels for compliance to the voluntary WWOANW and Be Whale Wise guidelines and vessel contact information are collected continuously.

All data is recorded using Soundwatch data sheets and then entered into a Microsoft 2000 Access Data Base. Sorts are run using Microsoft Excel to identify distributions of vessel contacts, vessel counts, vessel types and types of activities, as well as vessel compliance with voluntary guidelines.

The Whale Museum's

Soundwatch Boater Education Program

Data Collection Methods

Vessel Contacts:

Whenever Soundwatch approaches a vessel to distribute guidelines the interaction is recorded. Soundwatch notes the date, time, location, vessel type, # of people on board and vessel identification. Soundwatch records if the boat operator takes the guidelines, has been previously contacted, or if Soundwatch has to re-approached throughout the day.

If the vessel operator is behaving contrary to guidelines it is recorded as an incident, with special notation on the contact page if we have contacted them, if we have video documentation if the incident warrants follow-up from enforcement.

The Whale Museum's Soundwatch Boater Education Program Data Collection Methods

Vessel Counts:

Every half-hour the vessels within a ½ mile radius of where all known whale activity is occurring are counted according to type: commercial whale watching (Canadian or US), private recreational (whale watching or actively fishing), kayak (lumped commercial and private), aircraft (commercial or private), research, shipping traffic or other (as defined in comment section).

The time, date, location, latitude and longitude are recorded. Whale pod (s), direction and basic behavior is also recorded. Vessel counts are also conducted on-shore at Limekiln Whale Research Lab when whales are present and at regular fixed times with or without whales present.

The Whale Museum's

Soundwatch Boater Education Program

Data Collection Methods

Vessel Incidents:

An incident is defined as a driver of a commercial whale watch vessel, or a private boat operator operating contrary to the agreed upon voluntary WWOANW or Be Whale Wise Guidelines. Incidents are recorded whenever a Soundwatch operator observes an incident.

A vessel's company and/or name must be identified, preferably the actual name and registration number of the specific vessel. The date, time and exact location are recorded as well as the type of incident(s). Photos and/or videos are taken when possible especially in the case of repeated or blatant disregard for guidelines.

Soundwatch Boater Education Program and the Marine Mammal Monitoring Program (M3) 2004 Vessel Incident Recording Protocols and Incident Categories and Definitions.

The following are the protocols, categories and definitions of vessel operator behaviors that constitute behaving contrary to conventional guidelines (also referred to as *vessel incidents*) around marine mammals as used by The Whale Museum's **Soundwatch Boater Education Program** and the Veins of Life Watershed Society's **Marine Mammal Monitoring Program (M3)**.

Protocol:

The source for evaluating a vessel incident is based on vessel operator behavior contrary to the **Be Whale Wise Guidelines for Viewing Marine Wildlife** (designed for the general public) and/or the **Whale Watch Operators Association Northwest Guidelines** (designed for the experienced commercial operator). These guidelines were devised by a collaboration of scientists, stakeholders, monitoring groups and regional marine mammal managers. It is important to note that all vessel operator behaviors recorded as vessel incidents are based on voluntary guidelines designed to prevent whale harassment. Current regulations in the U.S. and Canada prohibit disturbance or 'take' to marine mammals. Soundwatch and M3 are not law enforcement and do not aim to be 'agents' in this role. Soundwatch and M3 data on vessel behaviors is not intended for use in an enforcement capacity, (except in extreme cases, see below*) but rather as a tool to improve vessel operator behavior, characterize vessel activities near whales for regional managers and stakeholders and as the basis for the creation and evaluation of regional guidelines. Soundwatch and M3 program staff endeavor to be objective and consistent when observing and recording vessel incidents in the often dynamic and challenging circumstances associated with vessels and marine mammals. Only trained program staff, not volunteers, may make the determination of a vessel operator behavior deemed as a vessel incident.

When vessel incidents are observed, the date, time, location and the type of behavior is recorded using in-field data collection forms and are entered into program databases. Data is collected on all vessel types, including commercial whale watching, private recreational and sport fishing vessels, kayaks, aircraft, monitoring vessels, un-permitted research and photographic vessels and other miscellaneous vessels on scene. **Vessel Incident Feedback Reports** are generated for individual commercial whale watch companies giving their individual company vessel operator reports as well as an overall summary of observed incidents for that time period. Seasonal summary data is also reported in End-of-Year Program Reports to characterize vessel activities near marine mammals.

***Soundwatch and M3 Program Cooperation with Regional Law Enforcement:** Flagrant or egregious behaviors, and/or repeated behaviors by any vessel operator or individual that might constitute 'whale disturbance or harassment' as defined under the U.S. Marine Mammal Protection Act or under Section 7 of the Canadian Fisheries Act are reported to regional law enforcement, namely Fisheries and Oceans Canada and/or the NMFS Northwest Regional Office for Law Enforcement in the U.S. In addition to incident information, further documentation is obtained when possible including video and/or still frame photography, range-finder, GPS, plotter or radar recording as well as a list of witnesses, namely commercial whale watch vessels on scene, is also provided in support of possible investigation or enforcement action.

Traditional Soundwatch and M3 Monitoring Program Vessel Behavior Incident Categories and Definitions

Under power within 100 yards/metres= vessel under power (moving) w/in 100 yds/m of a whale, use laser range finder when possible

Within ¼ mile (440 yards) SJJ Voluntary No Boat Zone= vessels w/in 440 yd of shoreline in the determined Zone when whales present, use radar/laser range finder when possible, or shore-based Theodolite study team

Within ½ mile (880 yards) Lime Kiln= vessels w/in 880 yd of shoreline one mile radius of Lime Kiln Light when whales present, use radar/laser range finder when possible, or shore-based Theodolite study team
Note: area expanded Lime Kiln to Edwards Point for NMFS research end of 2003 and into 2004 season

Within 1/8 mile (220yards) of shore= vessels w/in 220 yd of any shoreline when whales present, use radar/laser range finder when possible, or shore-based Theodolite study team

Inshore of whales= any vessel on the inshore side of whales when whales are traveling in relatively predictable pattern (large or small groups) within ½ mile (880 yd) of shore, use radar/laser range finder when possible, or shore-based Theodolite study team

Crossing path of whales= Vessels traveling across expected path of whales when whale are traveling in relatively predictable pattern (large or small groups)

Chasing/pursuing whales= Vessel traveling behind a whale or group of whales 400-100 y/m when whales are traveling in relatively predictable pattern

Parked in Path= Intentionally positioning vessel in the path of whales and/or not moving out of path of whales when there is time and space to do so, so that whales pass closer than 100 yds/m when whales are traveling in relatively predictable pattern.

Airplane within 1000 feet= Aircraft flying lower than 1000 ft, use laser range finder when possible, or shoreline reference

Within 200 yards of NWR= Vessel within 200 yd NWR site, use radar/laser range finder when possible

Other as defined in comments= Something out of the ordinary or other distinct behavior not in the spirit of the guidelines such as: aircraft repeated low circling, using current to drift into path, people throwing a Frisbee from vessel for dog into group of whales, multiple circles through Dall's Porpoise, closer than 200 yd to know a seal haul out or bird rookery, or other behavior contrary to Marine Protection Area guideline or regulation

Fast within ¼ mile (440 yards)= Vessel motoring faster than 7 knots within ¼ mile (440 yd) from whales, use laser range finder/speed gun/radar when possible

1st approach head-on, behind or inshore= when vessel new on scene approaches head-on, from behind or on the inshore side of whales when whales are traveling in relatively predictable pattern

Kayaks spread out= kayaks not grouped up when whales are traveling in relatively predictable pattern

Kayaks w/whales outside ¼ mile SJJ Zone= Kayaks not staying inshore in the determined Zone when whales present, paddling outside ¼ mile (440 yd) offshore to meet whales when whales are traveling in relatively predictable pattern.

Kayaks paddling within 100 yards of whales= kayak paddling w/in 100 yds/m of whale, use laser range finder when possible

Prepared By:

The Whale Museum

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Soundwatch@whalemuseum.org

www.whalemuseum.org

Sample

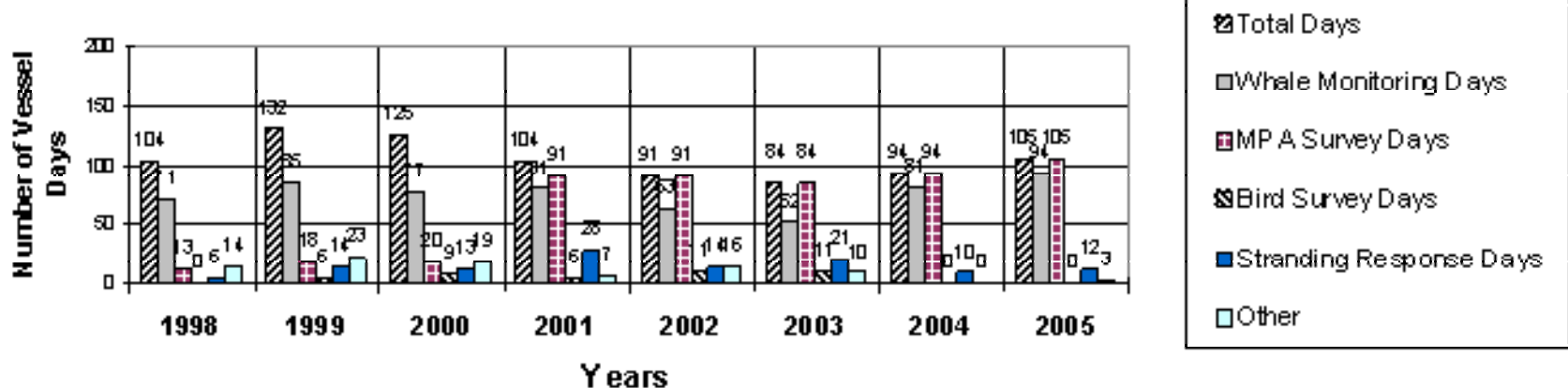
Soundwatch Feedback Report

FOR: Whale Watch Company Name

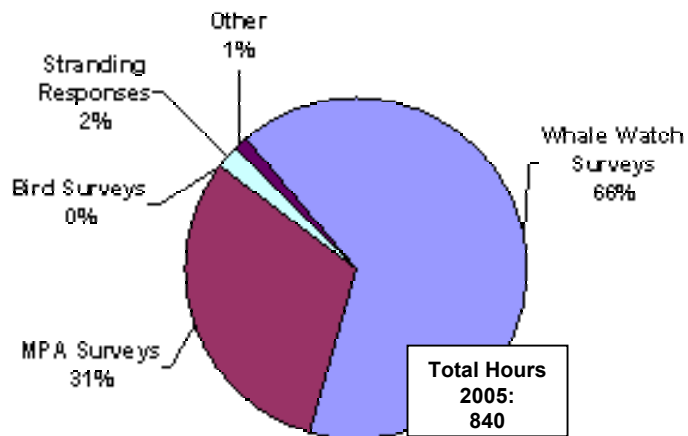
(Insert Company Name)

Incident Date:	Incident Time:	Location:	Vessel Name:	Observed Behavior:
7/1/2000	1:30:00 PM	False Bay	Company Boat	Parked in Path
7/1/2000	1:45:00 PM	Hannah Hts.	Company Boat	Within 440 yards of SJI No-Boat Zone
7/3/2000	4:58:00 PM	Open Bay	Company Boat	Inshore of whales
7/4/2000	3:39:00 PM	Pile Pt.	Company Boat	Inshore of whales
7/7/2000	3:45:00 PM	Hein Bank	Company Boat	Parked in Path

Soundwatch Vessel Activities 1998-2005

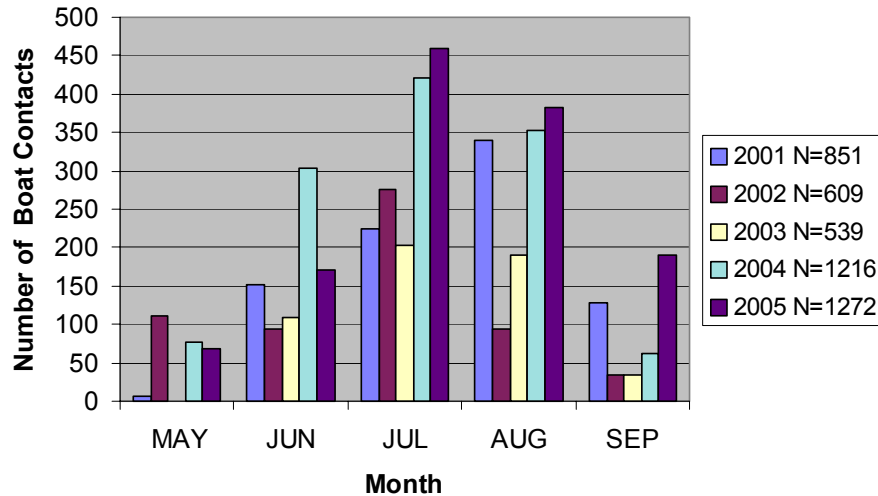


Basic Distribution of Soundwatch On-the-Water Activities 2005



Soundwatch Private Boat Contacts in the Boundary Waters of Washington State & B.C. (2001-2005)

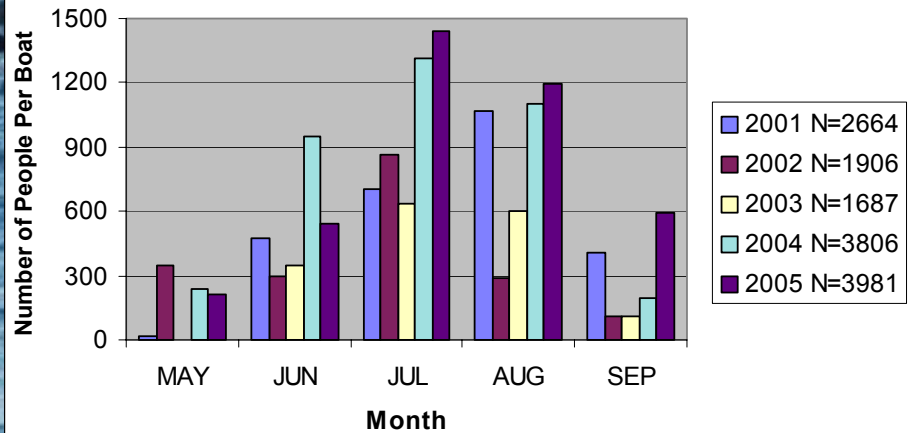
(© 2006, The Whale Museum)



Soundwatch Boat Contacts 2005

Number of People Contacted per Number of Soundwatch Private Boat Contacts in the Boundary Waters of Washington State & B.C. (2001-2005)

(© 2006, The Whale Museum)

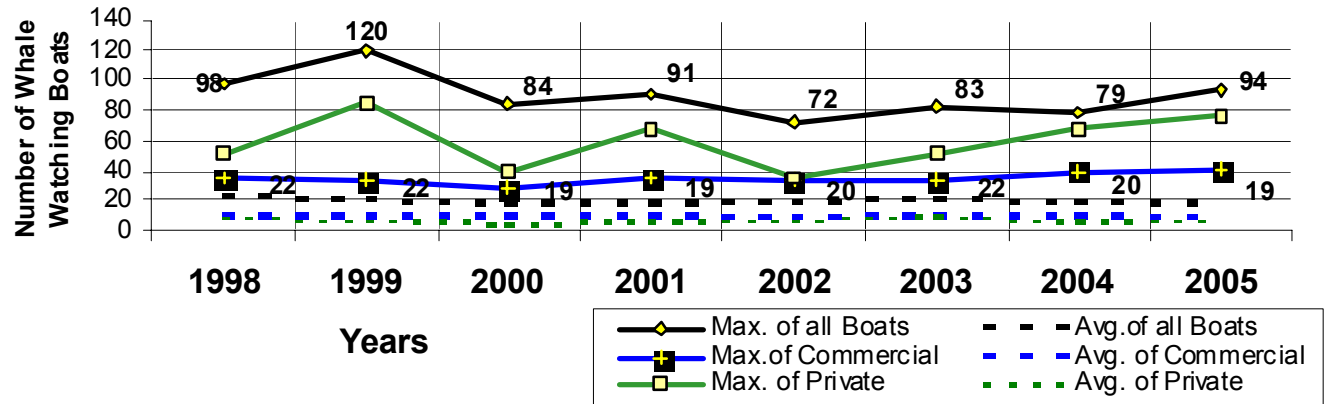


Soundwatch People Contacts/Vessel 2005

**Average
and
Maximum
Number of
Vessels in
the
Vicinity of
S.R.K.W.s.**

**Average and Maximum Numbers of Vessels
Accompanying Orcas in the Boundary Waters
(1998-2005)**

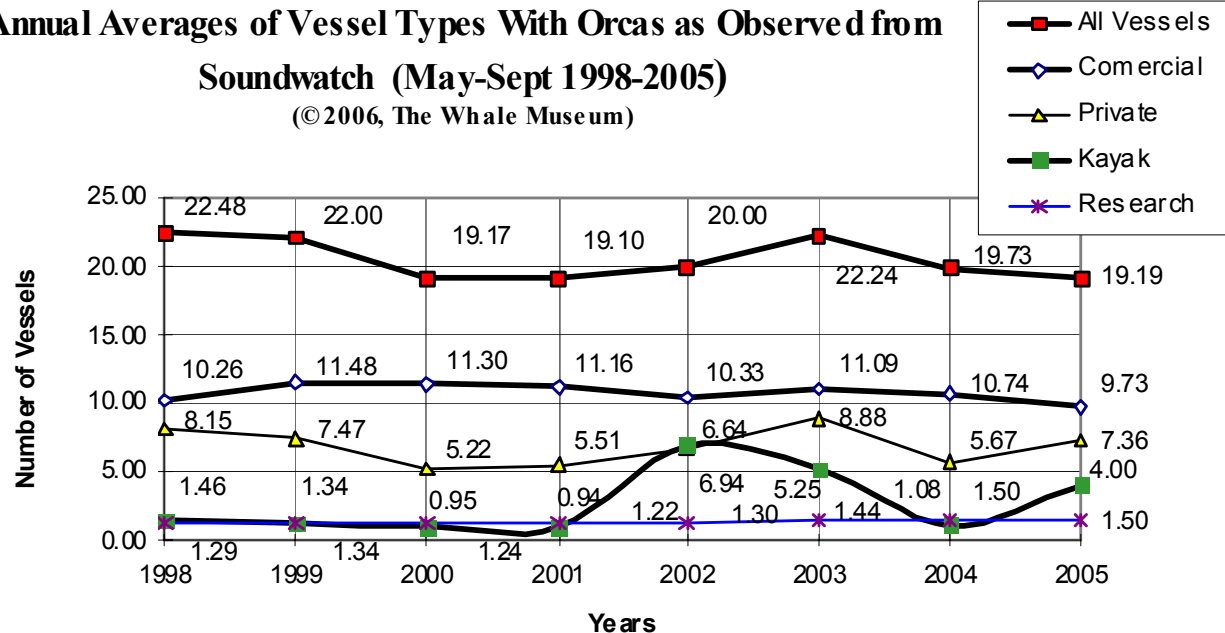
(© 2006, The Whale Museum)



**Annual
Average Of
Vessel
Types in
the Vicinity
of
S.R.K.W.s.**

**Annual Averages of Vessel Types With Orcas as Observed from
Soundwatch (May-Sept 1998-2005)**

(© 2006, The Whale Museum)

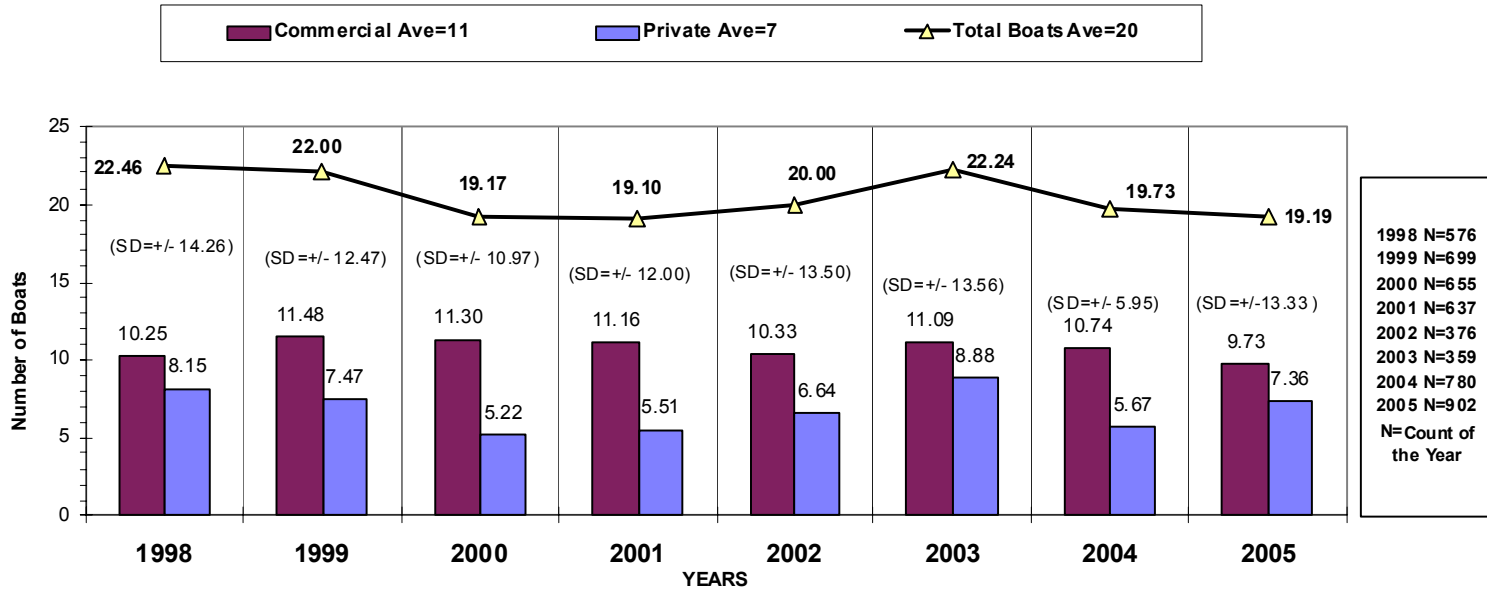


Private vs. Commercial Vessels in the Vicinity of S.R.K.W.s. with STDEV



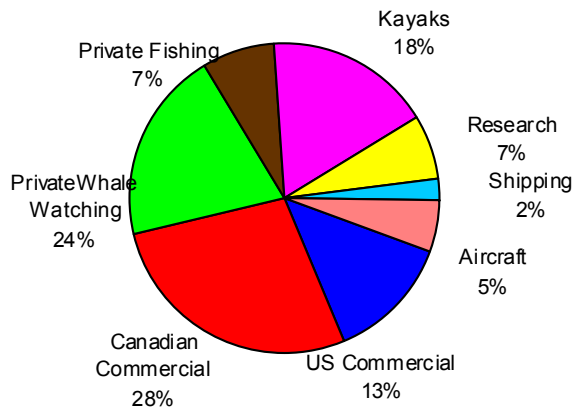
**Average Number of Boats With Whales in Haro Strait Region
(May - September, 1998-2005)**

(© 2006, The Whale Museum)



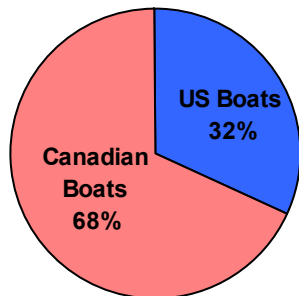
Vessel Types Accompany ing Whales in Haro Strait 2005

**Distribution of Vessels When Whales are Present
May-September 2005**
(© 2006, The Whale Museum)



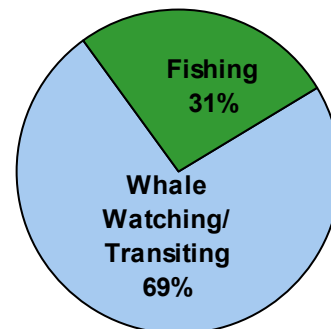
In 2005 there was an average of 19.19 boats accompanying whales

**2005 Distribution of Commercial Whale
Watching Boats When Whales are Present**
(© 2006, The Whale Museum)



In 2005 commercial boats made up 51% of boats accompanying whales

**2005 Distribution of Private Boats
When Whales are Present**
(© 2006, The Whale Museum)

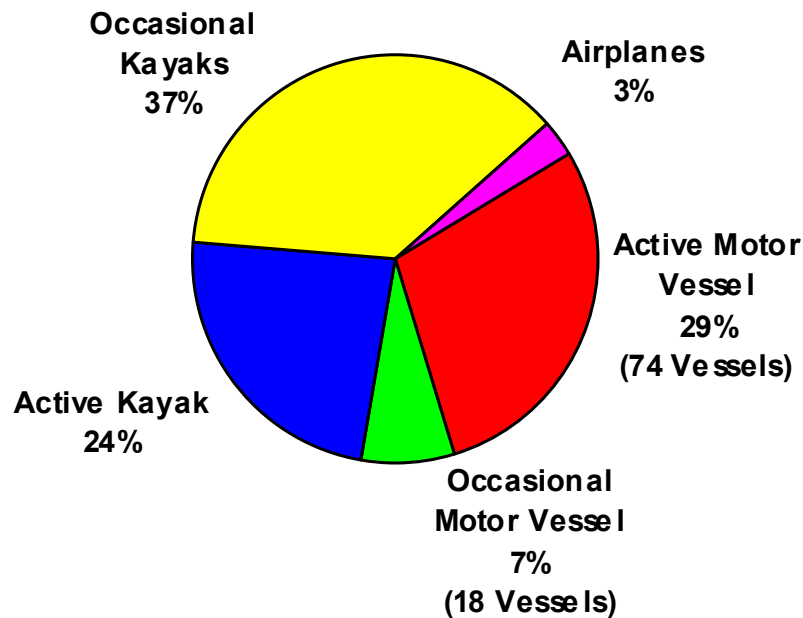


In 2005 private boats made up 38% of boats accompanying whales

2004 Active and Occasional Commercial Whale Watch Platforms in Haro Strait

2004-2005 Commercial Whale Watch Platforms in the Boundary Waters of Haro Strait

(© 2005, The Whale Museum)



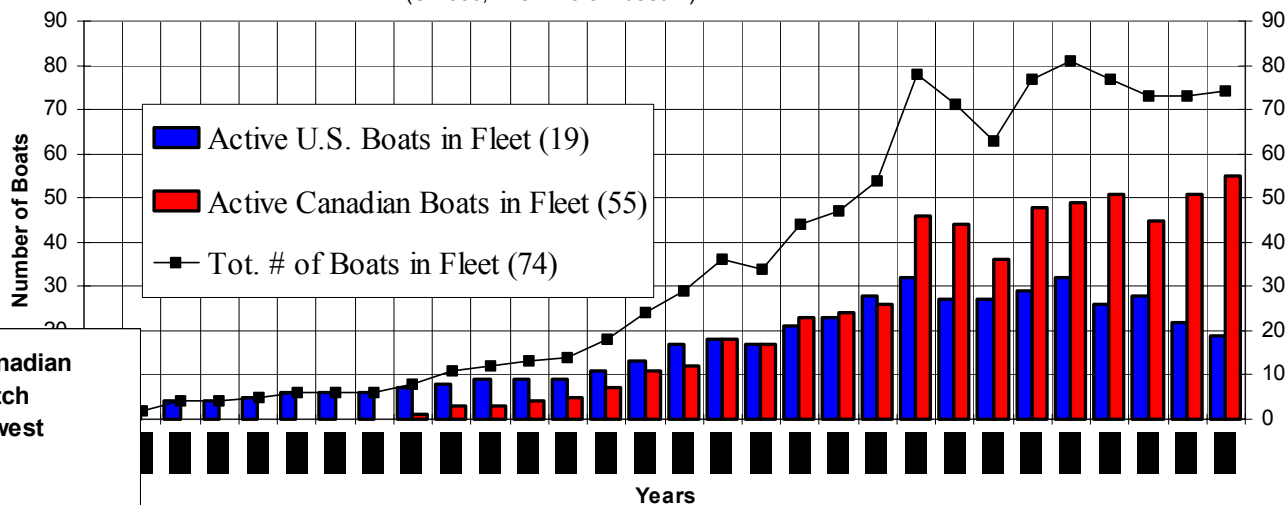
Estimated Active = >1 day/wk

Estimated Occasional = ≤ 1 day/wk. Or 10 days/season

U.S. and Canadian Commercial Whale Watch Industry Growth 1976-2005

Growth of Commercial Whale Watching in the Boundary Waters of Haro Strait (1976-2005)

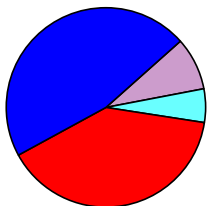
(© 2006, The Whale Museum)



2005 Percentage of U.S. and Canadian Companies in the Whale Watch Operators Association Northwest (WWOANW)

(© 2006, The Whale Museum)

U.S. WWOANW Companies
47%



U.S. Non-member Companies
10%

Canadian Non-member Companies
13%

#Canadian WWOANW Companies
39%

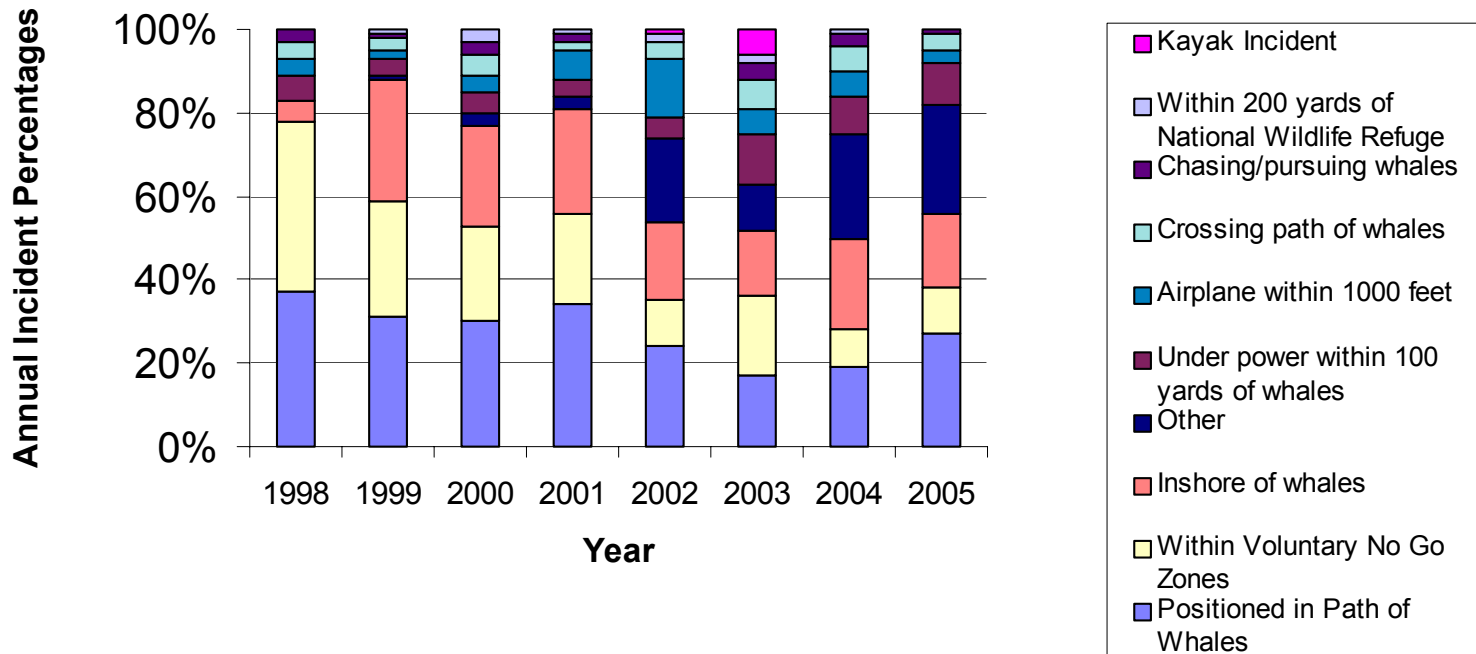
41 WW Companies
36 WWOA Members

Vessel Incidents Percentages 1998- 2005

Soundwatch Observed Commercial, Private, Kayak, Aircraft and Research Behavior Contrary to Guidelines 1998-2005									
Behavior Code	Behavior Category	Incidents							
		1998	1999	2000	2001	2002	2003	2004	2005
1	Leapfrogging	37%	31%	23%	1%	NA	NA	NA	NA
2	Under power within 100 yards of whales	6%	4%	5%	4%	5%	12%	9%	14%
3	Within 440 yards of SJI No-Boat Zone	39%	26%	17%	17%	7%	13%	4%	8%
4	Within 880 yards of Lime Kiln	2%	2%	2%	1%	2%	5%	1%	2%
5	Crossing path of whales	4%	3%	5%	2%	4%	7%	6%	4%
6	Chasing/pursuing whales	3%	1%	3%	2%	<1%	4%	3%	1%
7	Inshore of whales	5%	29%	24%	25%	19%	16%	22%	18%
8	Airplane within 1000 feet	4%	2%	4%	7%	14%	6%	6%	3%
9	Within 200 yards of National Wildlife Refuge	0%	1%	3%	1%	2%	2%	1%	0%
•10	Other		1%	3%	3%	14%	5%	15%	11%
•11	Within 220 yards of shore; whales present			4%	4%	2%	<1%	4%	1%
•12	Repositioning within 100 yards			7%	7%	NA	NA	NA	NA
•13	Parked in the path of whales				26%	24%	17%	19%	27%
•16	Fast within 1/4 mile					3%	4%	9%	10%
•17	1st Approach head on, behind, or on shore					4%	2%	1%	1%
•18	Kayaks spread out					<1%	3%	0%	0%
•19	Kayaks with whales outside 1/4 SJI Zone					<1%	1%	0%	0%
•20	Kayaks paddling w/in 100 yds						3%	0%	0%
•Category Not Used	*1998-2001 Sw Ave 7days/week May-Sept								
During All Years	**2002 SW Ave 3 days/week May-Sept								
	***2003/04/05 SW Ave 5days/week May-Sept								
	Total %	100%	100%	100%	100%	100%	100%	100%	100%
	Total Observed Incidents	*398	*791	*653	*533	**259	***373	***761	***957
	Estimated Observation Hours	426hr	510hr	462hr	486hr	378hr	312hr	486hr	564hr

Clustered Vessel Incidents Percentages 1998-2005

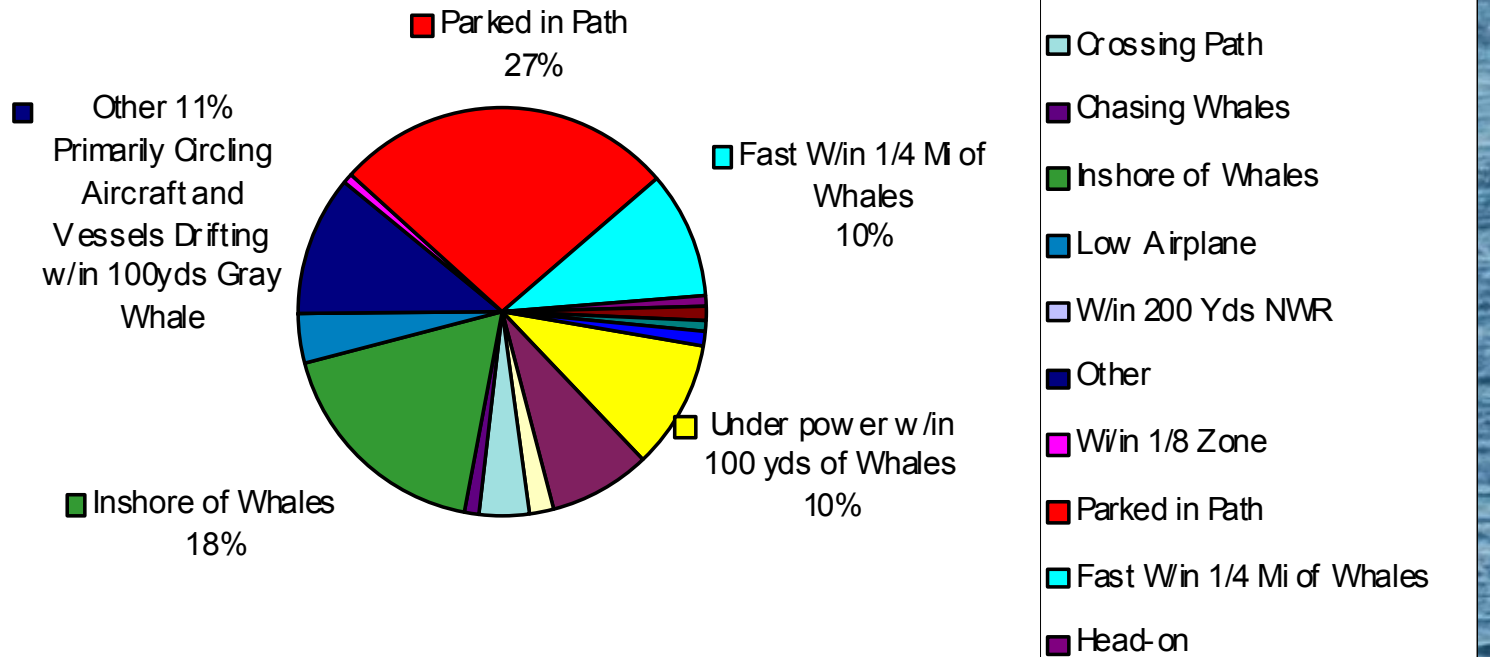
Clustered Incident Categories for all Vessel Types 1998-2005
(© 2006, The Whale Museum)



2005 Soundwatch Observed Vessel Incident Percentages

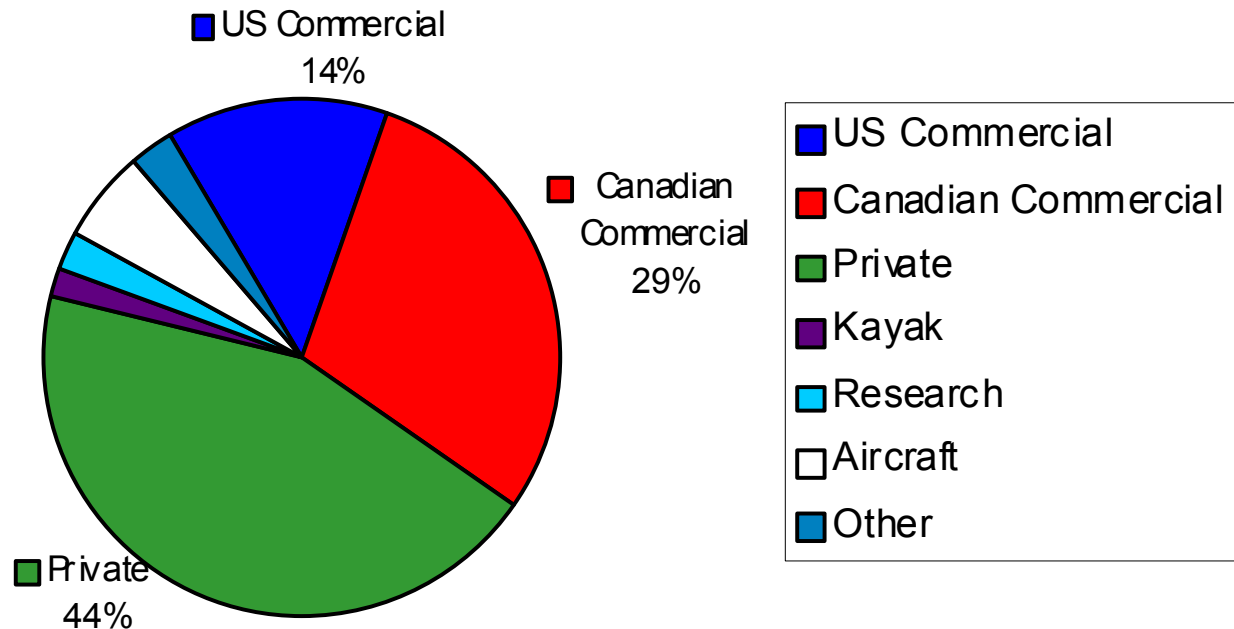
2005 Soundwatch Observed Vessel Incident Percentages

(N=957 Incidents)

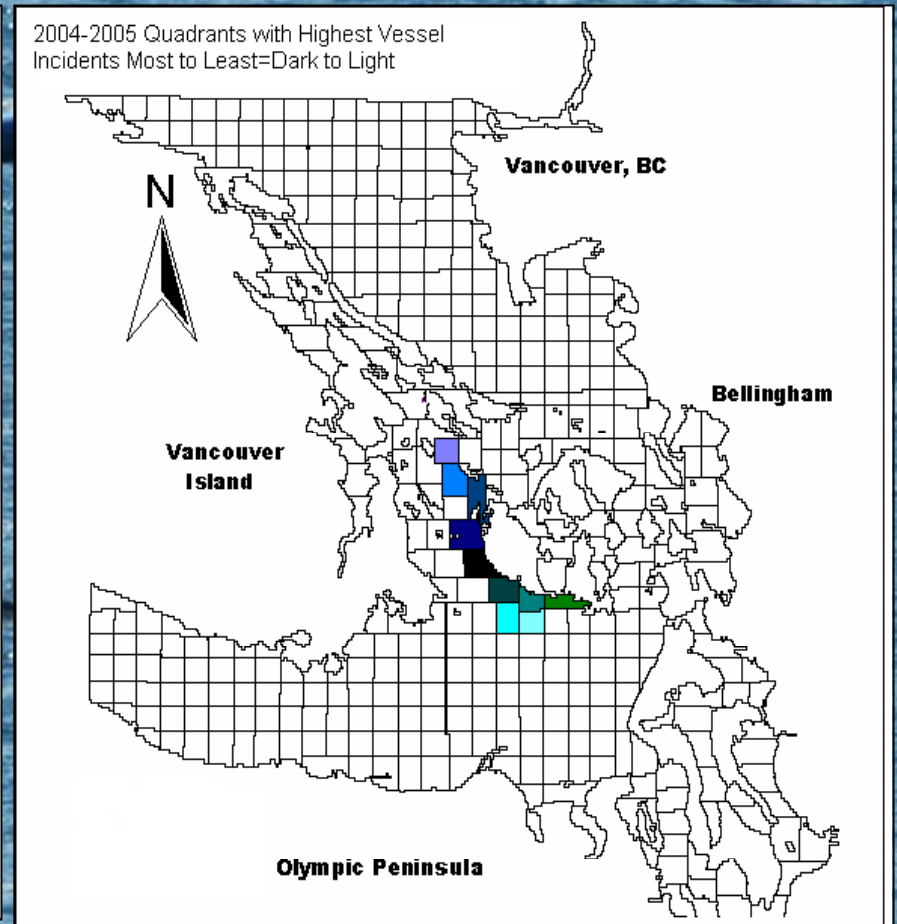
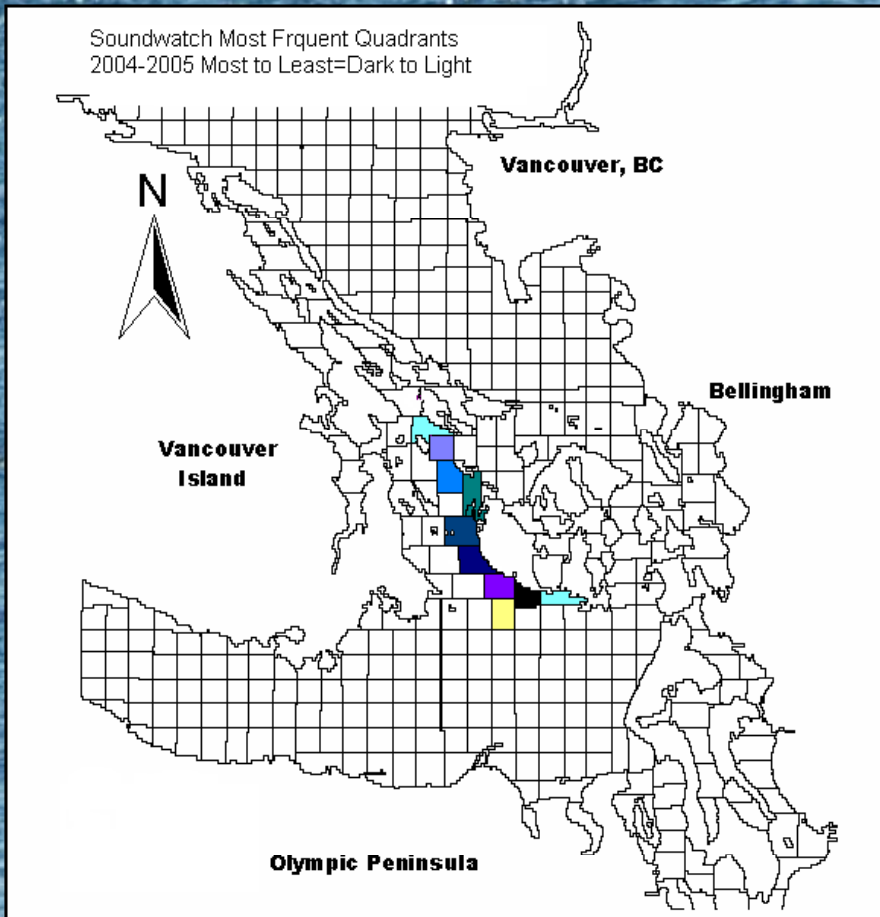


2005 Soundwatch Observed Vessel Incident Percentages by Vessel Type.

2005 Soundwatch Observed Incident Percentages by Vessel Type

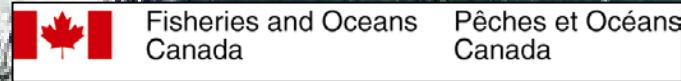


Most Frequent Quadrants by Whales and Most Frequent Quadrants with Incidents



Thank you for Being Whale Wise!

Soundwatch would like to thank the numerous individuals and businesses who contribute to the program as well as the following agencies and foundations:



Northwest Fisheries Science Center