

*Science, Service, Stewardship*

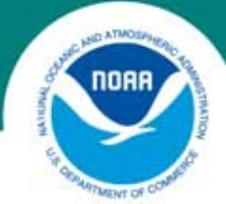


NOAA

# Southern Resident Killer Whales Recovery Program

September 26, 2011

**NOAA  
FISHERIES  
SERVICE**



## Recovery Program

- ESA listing
- Critical Habitat
- Recovery plan
- Section 7 consultations
- Recovery implementation



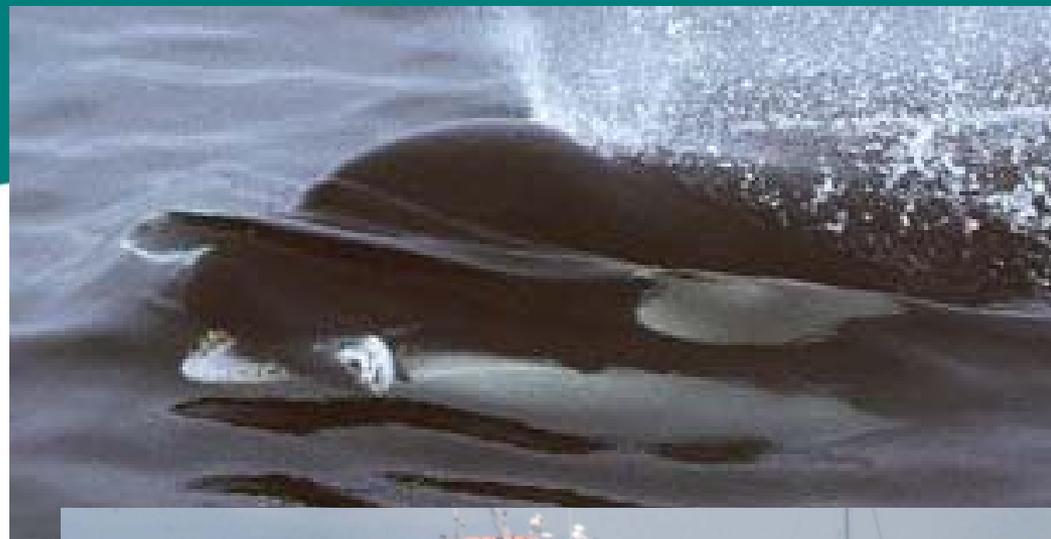


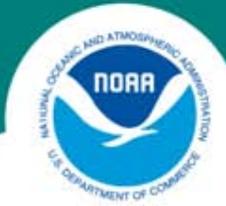
## Listing Factors

- Prey
- Pollution and contaminants
- Vessels and sound

Also

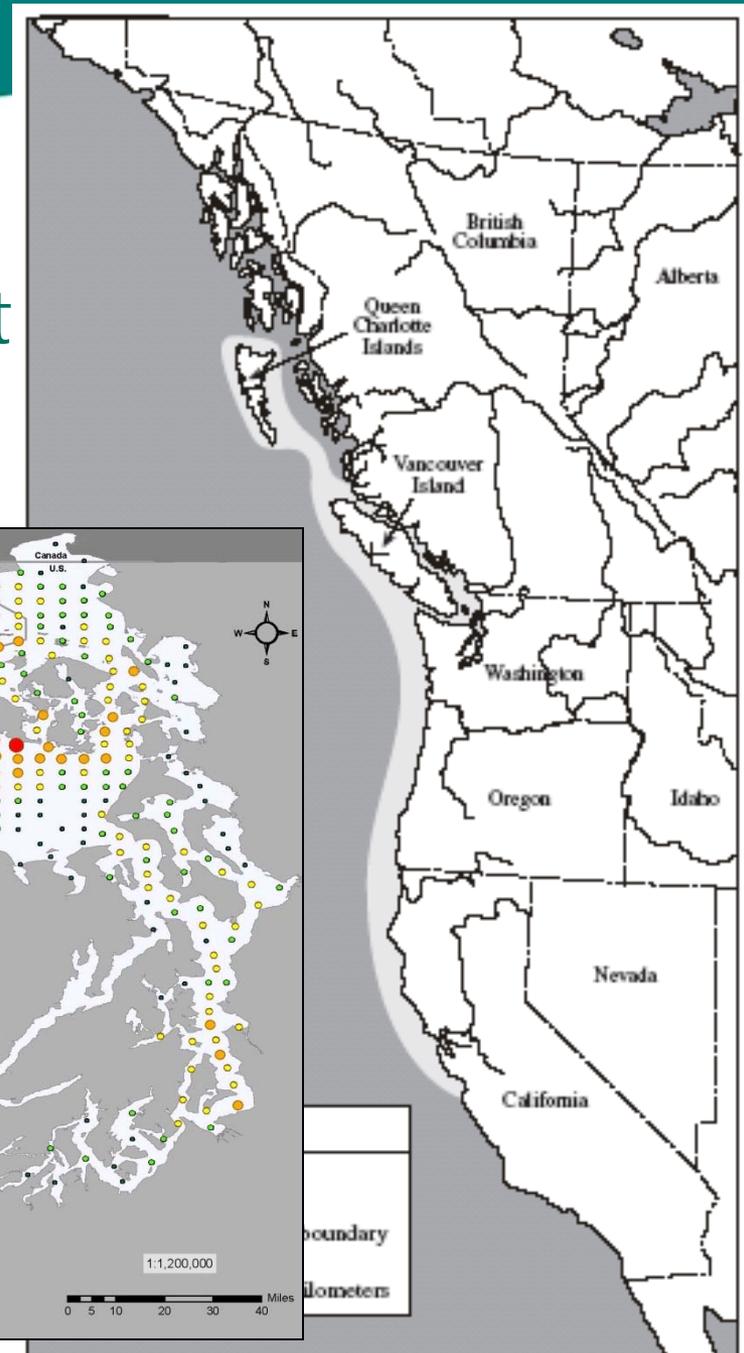
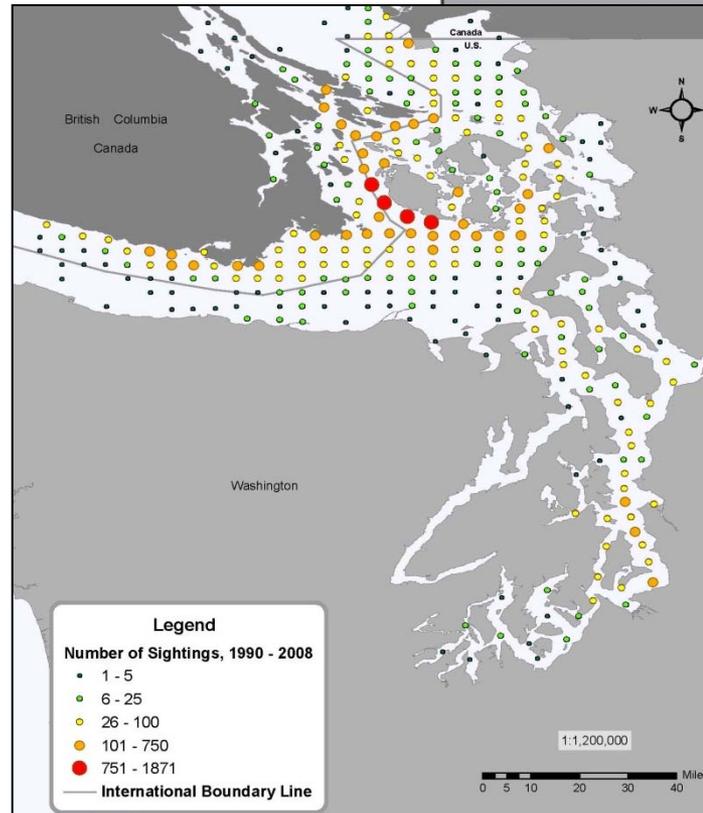
- Oil spills
- Small population size





## Southern Resident Range

- Range extends from Queen Charlotte Islands, British Columbia to California
- Inland waters near San Juan Islands May-Sept “hot spot”





# Critical Habitat

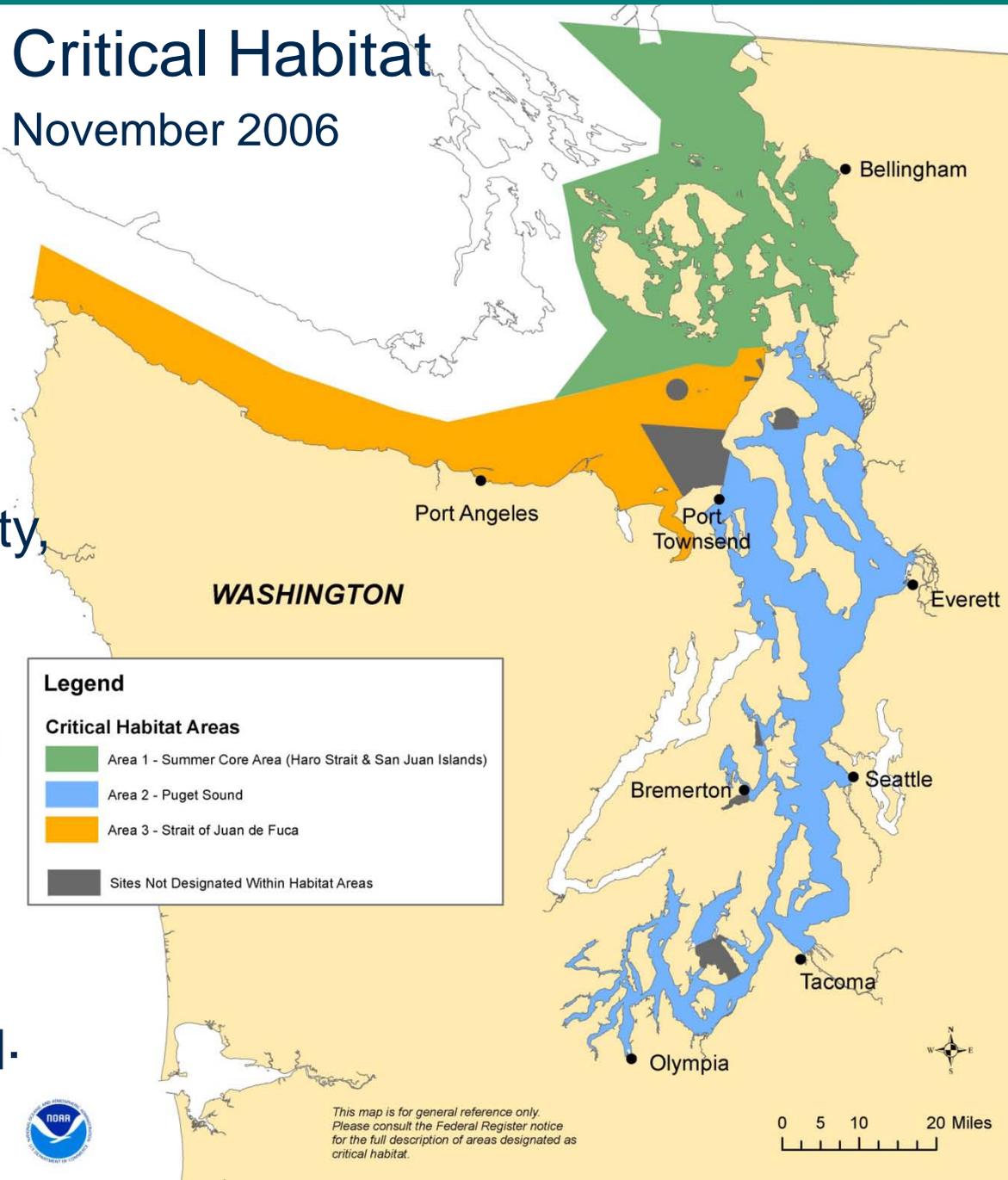
November 2006

## Essential Features

- Water quality
- Prey - sufficient quantity, quality and availability
- Passage to support migration and foraging

~ 2,560 square miles  
(6,630 sq. km)

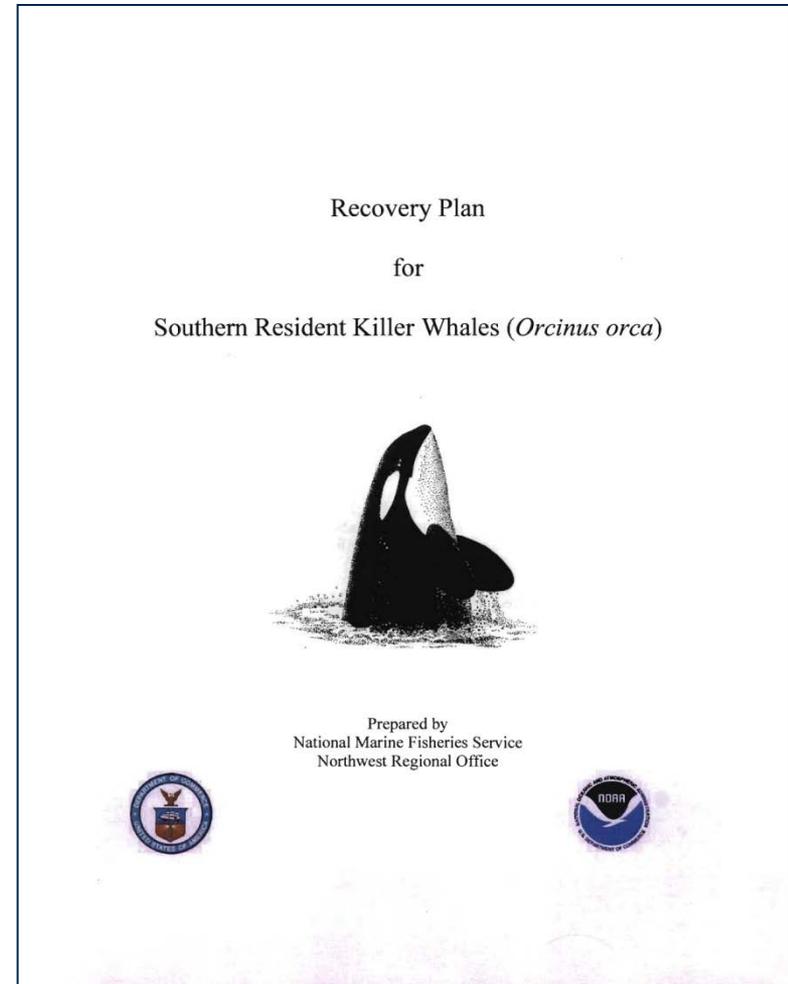
112 square miles (291 sq. km) excluded





## Recovery Plan

- Started implementing actions in 2003 with specific funding
  - Research
  - Enforcement support
  - Education
- Recovery Plan complete 2008
- Broad approach to address all threats
- Adaptive process to incorporate research results as available





# Endangered Species Act

## Section 7

Federal agencies must ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or to adversely modify critical habitat.

**Defining Jeopardy:** “Jeopardize the continued existence of” means to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.



## Section 7 Consultation Examples

Fisheries regulations

Hydropower actions (including hatchery production)

Water treatment plants, sewer outfalls, Federal NPDES

In-water construction

—Pile driving sound, increase in vessels (docks, marinas),  
dredging (contaminated sediments)

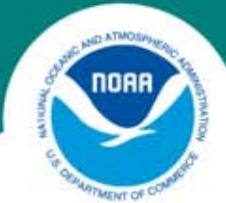
Upland projects (Flood Insurance Program)

Habitat restoration (creosote pile removal)

Research on Southern Resident killer whales

Tidal and wave energy projects, LNG terminals

Navy and Coast Guard operations

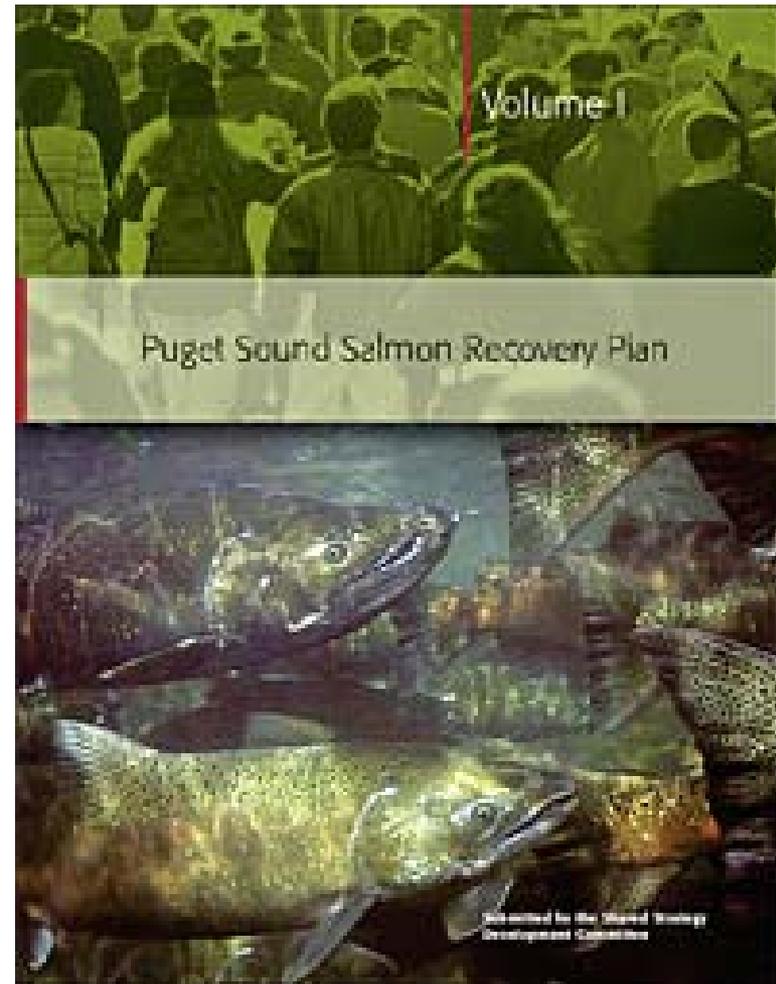


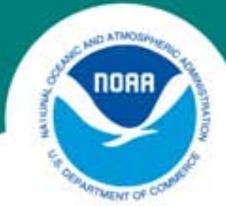
## Prey

### Recovery Plan Actions-

1. Support salmon restoration efforts in the region.
2. Support regional restoration efforts for other prey species.
3. Use NMFS authorities under the ESA and the MSFCMA to protect prey habitat, limit harvest, and improve hatcheries to aid recovery.

- Coordinating with ongoing salmon recovery efforts and bilateral workshop process

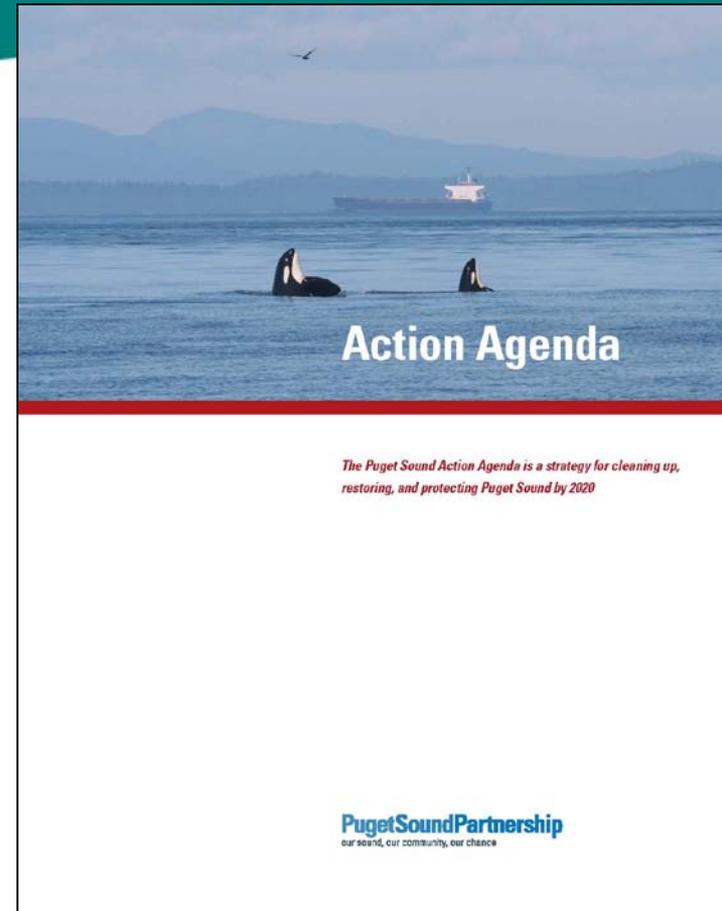




## Contaminants

### Recovery Plan Actions-

1. Clean up contaminated sites and sediments.
2. Minimize continuing inputs of contaminants into the environment.
3. Minimize contamination in prey.



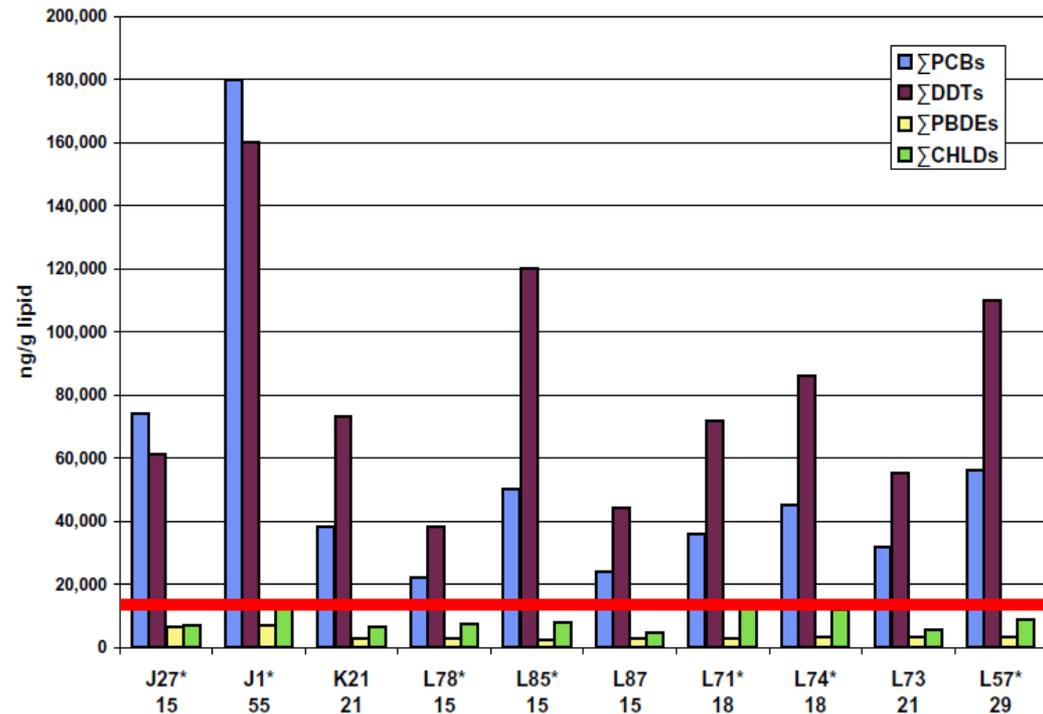
### Puget Sound Partnership- Action Agenda to restore Puget Sound by 2020

- Actions include implementing killer whale recovery plan
- Dashboard indicators: Chinook and orca abundance

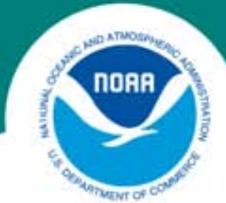


## Contaminants Data

- Southern Residents have high total PCBs and DDTs that exceed the health-effects threshold for PCBs in harbor seal blubber (17,000 ng/g, red horizontal line).
- PCB-induced health effects in harbor seals include reduced immune function and reproductive failure.
- PBDE levels are relatively low in the whales, however, PBDEs are still in use and exposure and accumulation will likely increase in the future.



Krahn et al. 2009



# Vessel Impacts



## Recovery Plan Actions-

1. Monitor vessel activity around whales
2. Continue evaluation and improvement of voluntary whale watching guidelines
3. Evaluate the need for regulations or areas with vessel restrictions

## Be Whale Wise

**Marine Wildlife Guidelines for Boaters, Paddlers and Viewers (Revised 2006)**



**Guidelines:**

1. BE CAUTIOUS and COURTEOUS: approach areas of known or suspected marine wildlife activity with extreme caution. Look in all directions before planning your approach or departure.
2. SLOW DOWN: reduce speed to less than 7 knots when within 400 metres/yards of the nearest whale. Avoid abrupt course changes.
3. KEEP CLEAR of the whales' path. If whales are approaching you, cautiously move out of the way.
4. DO NOT APPROACH whales from the front or from behind. Always approach and depart whales from the side, moving in a direction parallel to the direction of the whales.
5. DO NOT APPROACH or position your vessel closer than 100 metres/yards to any whale.
6. If your vessel is not in compliance with the 100 metres/yards approach guideline (#5), place engine in neutral and allow whales to pass.
7. STAY on the OFFSHORE side of the whales when they are traveling close to shore.
8. LIMIT your viewing time to a recommended maximum of 30 minutes. This will minimize the cumulative impact of many vessels and give consideration to other viewers.
9. DO NOT swim with, touch or feed marine wildlife.

**Row and stern-riding porpoises and dolphins:**

1. DO NOT drive through groups of porpoises or dolphins to encourage bow or stern-riding.
2. Should dolphins or porpoises choose to ride the bow wave of your vessel, avoid sudden course changes. Hold course and speed or reduce speed gradually.

**Seals, sea lions and birds on land:**

1. BE CAUTIOUS AND QUIET when around haul-outs and bird colonies, especially during breeding, nesting and pupping seasons (generally May to September).
2. REDUCE SPEED, minimize wake, wash and noise, and then slowly pass without stopping.
3. AVOID approaching closer than 100 metres/yards to any marine mammals or birds.
4. PAY ATTENTION and move away, closely and cautiously, at the first sign of disturbance or agitation.
5. DO NOT disturb, move, feed or touch any marine wildlife, including seal pups. If you are concerned about a potentially sick or stranded animal, contact your local, standing network where available.

**Marine Protected Areas, Wildlife Refuges, Ecological Reserves and Parks:**

1. CHECK your nautical charts for the location of various protected areas.
2. ABIDE by posted restrictions or contact a local authority for further information.

**To report a marine mammal disturbance or harassment:**

**CANADA:**  
Wildlife and Ocean Canada: 1-800-461-4100  
US: NOAA Fisheries Office for Law Enforcement: 1-800-853-1968

**To report marine mammal sightings:**  
B: Cetacean Sighting Network (CSN) at: 408-338-6744  
P: Pacific Marine Mammal Survey (PMMS) at: 1-800-461-4100  
O: Orca Sighting Network (OSN) at: 1-800-461-4100

**Need more information?**

**CANADA:**  
Wildlife and Ocean Canada Call Centre: National Mammal Monitoring Program (NMMMP) at: 203-383-0866

**US:**  
Washington State, Marine Mammal Program, Spillwatch/Boater Education Program at: 360-225-0774  
NOAA Fisheries, Northeast Region, NOAA Fisheries Office of Protected Species  
**GREATER VICTORIA and MARSHWATER STATE:**  
Whale Watch Victoria Association (WWVA)



## Protective Regulations

- March 2007: Advance Notice of Proposed Rulemaking
- July 2009: Proposed Regulation & Draft Environmental Analysis
  - Economic Analysis/  
Regulatory Impact Review
  - Cooperating Agencies- DFO, WDFW, Coast Guard
- April 2011: Final Regulations Published





## Data to Support Regulations

- Monitoring data
  - Numbers and types of vessels around the whales
    - Average of 14-20 vessels within ½ mile of whales (2005-2010)
  - Numbers of incidents of vessels not following guidelines
    - 957 to 2,527 incidents per summer (2005-2010)
    - Up to 100 disturbance per 12 hour period June-September
- Research results on impacts of vessels
  - Vessel strikes: observations and stranding data
  - Behavioral disturbance: changes in swimming, feeding, respirations, surface active behaviors, vocalizations
  - Acoustic masking: reduced efficiency of echolocation
- Conclusion: Current protections not sufficient



## Final Regulations

The final regulations make it unlawful for vessel operators to:

1. Cause a vessel to approach, in any manner, within 200 yards of any killer whale.
2. Position a vessel to be in the path of any killer whale at any point located within 400 yards of the whale. This includes intercepting a killer whale by positioning a vessel so that the prevailing wind or water current carries the vessel into the path of the whale.

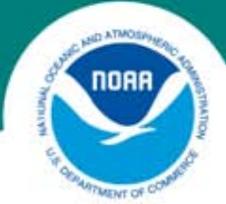
### Be Whale Wise

and follow the Law  
It's as easy as 1, 2, 3...

1. The **ONE** place not to be is in the path of whales. Don't position your vessel in the path of oncoming whales within 400 yards of a whale.
2. Stay at least **TWO** hundred yards away from any killer whale (200 yards = the distance of two football fields and is about 200 meters).
3. Remember these **THREE** w's to Be Whale Wise: follow the guidelines for viewing all wildlife, check for local protected areas and restrictions, and always be safe.

Visit [www.bewhalewise.org](http://www.bewhalewise.org) to learn more, download the laws, regulations, and guidelines, and to report violations.

Report Violations:  
NOAA Office of Law  
Enforcement  
1-800-538-1964  
or online at  
[www.bewhalewise.org](http://www.bewhalewise.org)



## Oil Spill Response Plan

- Action in Recovery Plan and Recovery Criteria
  - Effective response plan in place
- Workshop to discuss tools (October 2007)
- Draft Response Plan
  - Workshop participant and public review
  - Incorporated as part of the Northwest Area Contingency Plan
  - Developing implementation protocols

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## Outreach Partners

- The Whale Museum
- Seattle Aquarium
- Killer Whale Tales
- Orca Network
- Soundwatch/Straitwatch
- The Whale Trail
- Pacific Whale Watch Assoc
- Naturalists
- NGOs



**REPORT KILLER WHALE SIGHTINGS**  
Help us learn where the whales live in coastal waters

**1-866-672-2638**  
A collaborative effort by: 1-866-ORCANET

the  
**CENTER for WHALE RESEARCH**  
www.whaleresearch.com  
P.O. Box 1577  
Friday Harbor, WA 98250

Northwest Fisheries  
Science Center  
Dawn Noren@noaa.gov  
www.nwfsc.noaa.gov/features/kwsightings.cfm

## Killer Whale Tales

Protecting the long term health of the  
Southern Resident Killer Whales...  
one student at a time



Activity Guide and  
Orca Research Sheets  
Volume 2

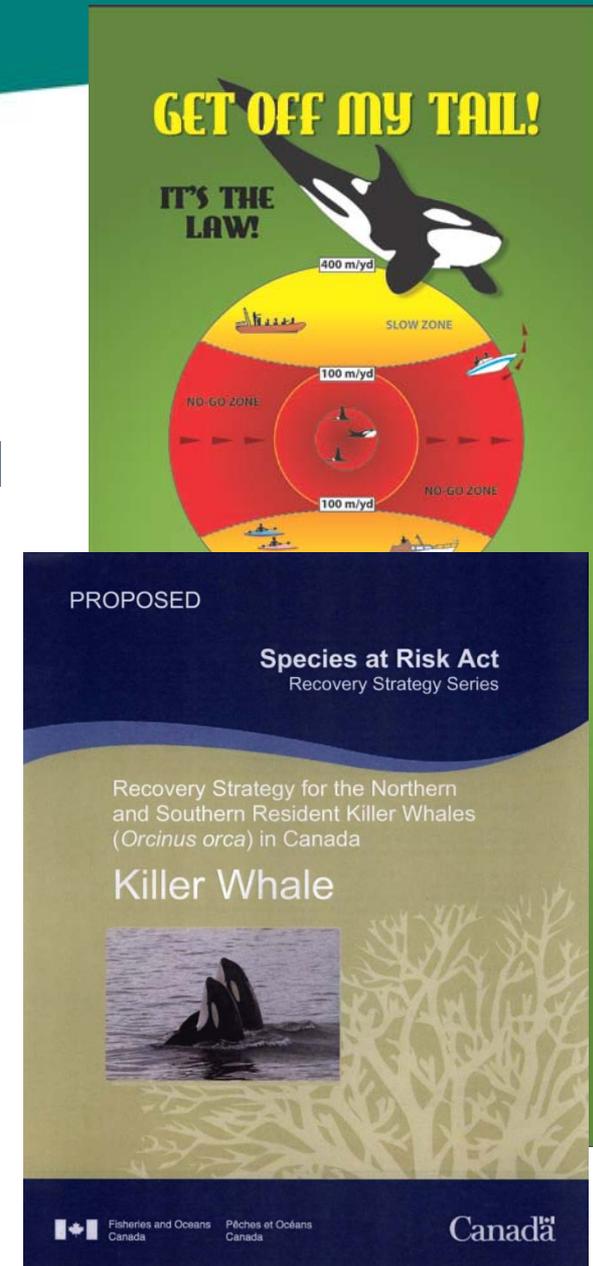


Photo by Jeff Hogan



## Coordination

- Southern and Northern Residents listed under SARA, trans-boundary species requires coordination with DFO, Canada
- Killer whales listed in WA state
  - State vessel regulation
  - WDFW participation in developing Recovery Plan
- Coordination with research community, NWFSC, PBS/DFO
  - Research to inform management actions



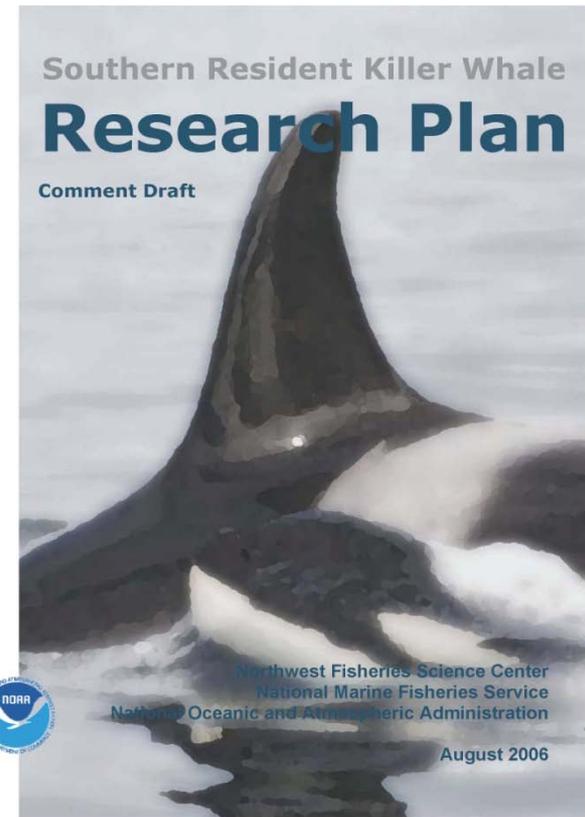


## Research Needs for Recovery

Management actions in  
Recovery Plan linked to  
research actions

- Population monitoring
- Winter distribution
- Prey
- Contaminants
- Vessels & Sound

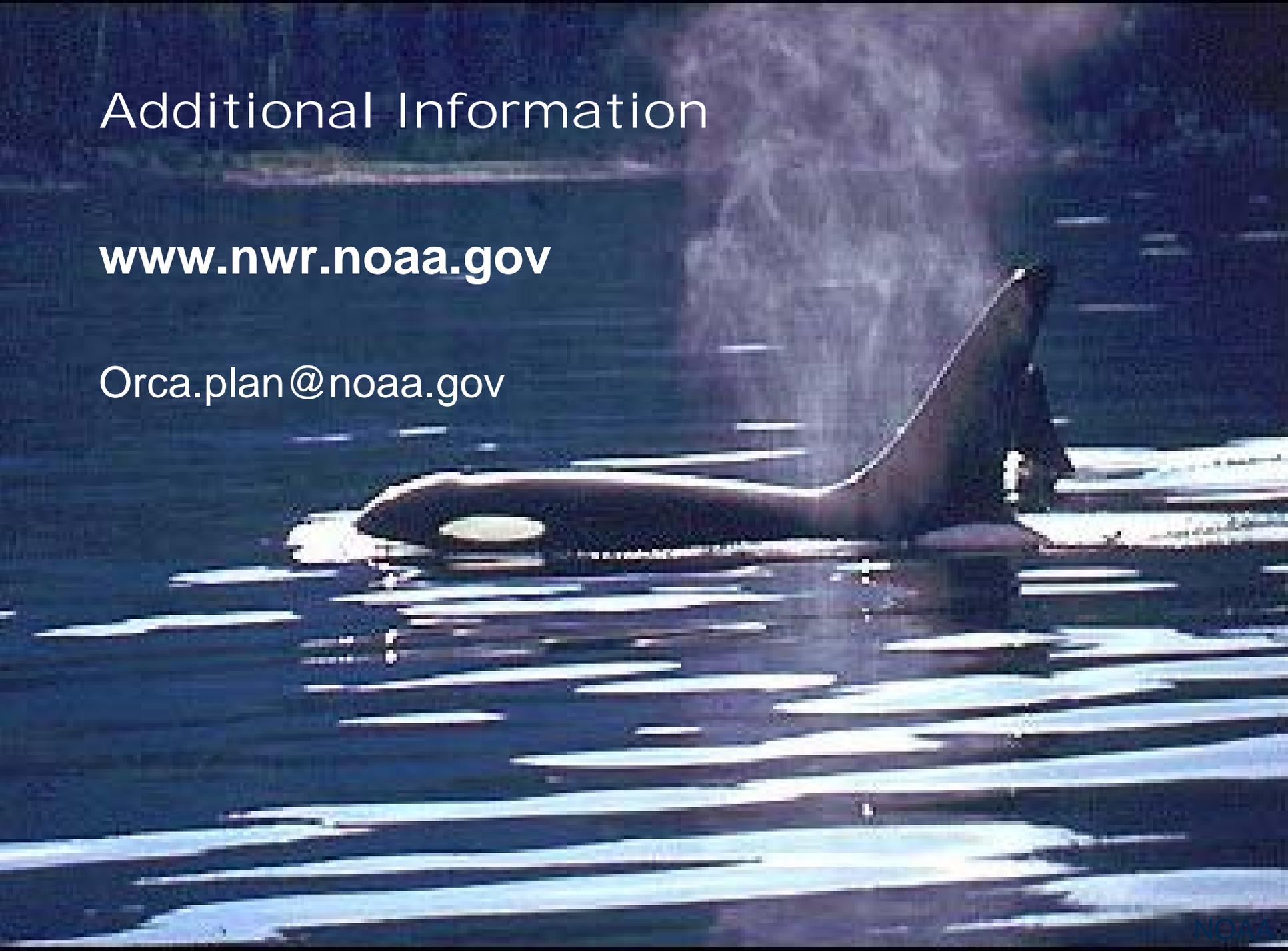
Research Newsletter, 2011



# Additional Information

[www.nwr.noaa.gov](http://www.nwr.noaa.gov)

[Orca.plan@noaa.gov](mailto:Orca.plan@noaa.gov)





# Protecting Resident Killer Whales: Recovery Strategy and Action Planning Overview



Seattle Resident Killer Whale/Prey Workshop September 2011

Paul Cottrell Pacific Marine Mammal Coordinator Fisheries and Oceans Canada



# Overview

- Species at Risk Act
- Critical Habitat Protection
- Resident Killer Whale Recovery Strategy
- Resident Killer Whale Action Plan
- Canadian/US Collaboration



# Canada's *Species at Risk Act (SARA)*

Aquatic species identified as “at risk” are the responsibility of DFO

## **Individuals are Protected under SARA**

- No person shall kill, harm, harass, capture or take an endangered (En) or threatened (Th) species
- No person shall possess, collect, buy, sell or trade an En or Th species or any part of an individual

## **Critical Habitat is Identified and Protected under SARA**

- Develop Recovery Strategy and Action Plan for Th and En species
- Identify Anthropogenic Threats and Implement Actions to Affect Recovery



# Resident Killer Whale Listing - SARA

- In 2001 COSEWIC Designated Southern Residents as Endangered, Northern Residents as Threatened
- SARA Listed in June 2003
  - Small Population Size
  - Low Reproductive Rate
  - Existence of a Variety of Anthropogenic threats
- Recovery Strategy Published March 2008





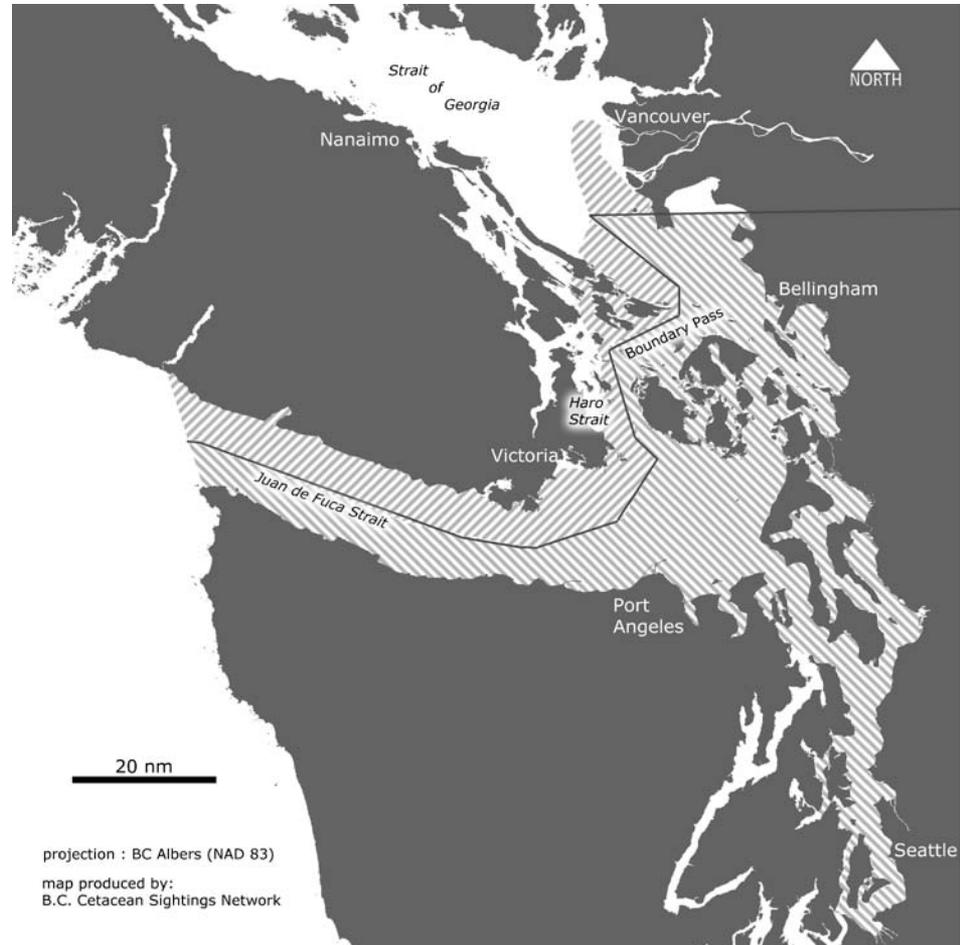
# Southern Resident KW Critical Habitat

- Identified in the March 14, 2008 Recovery Strategy
- Protected by an Order under S. 58 of SARA on February 23, 2009
- The Order makes it an offence to destroy critical habitat under SARA
- Destruction may include harm to biological features



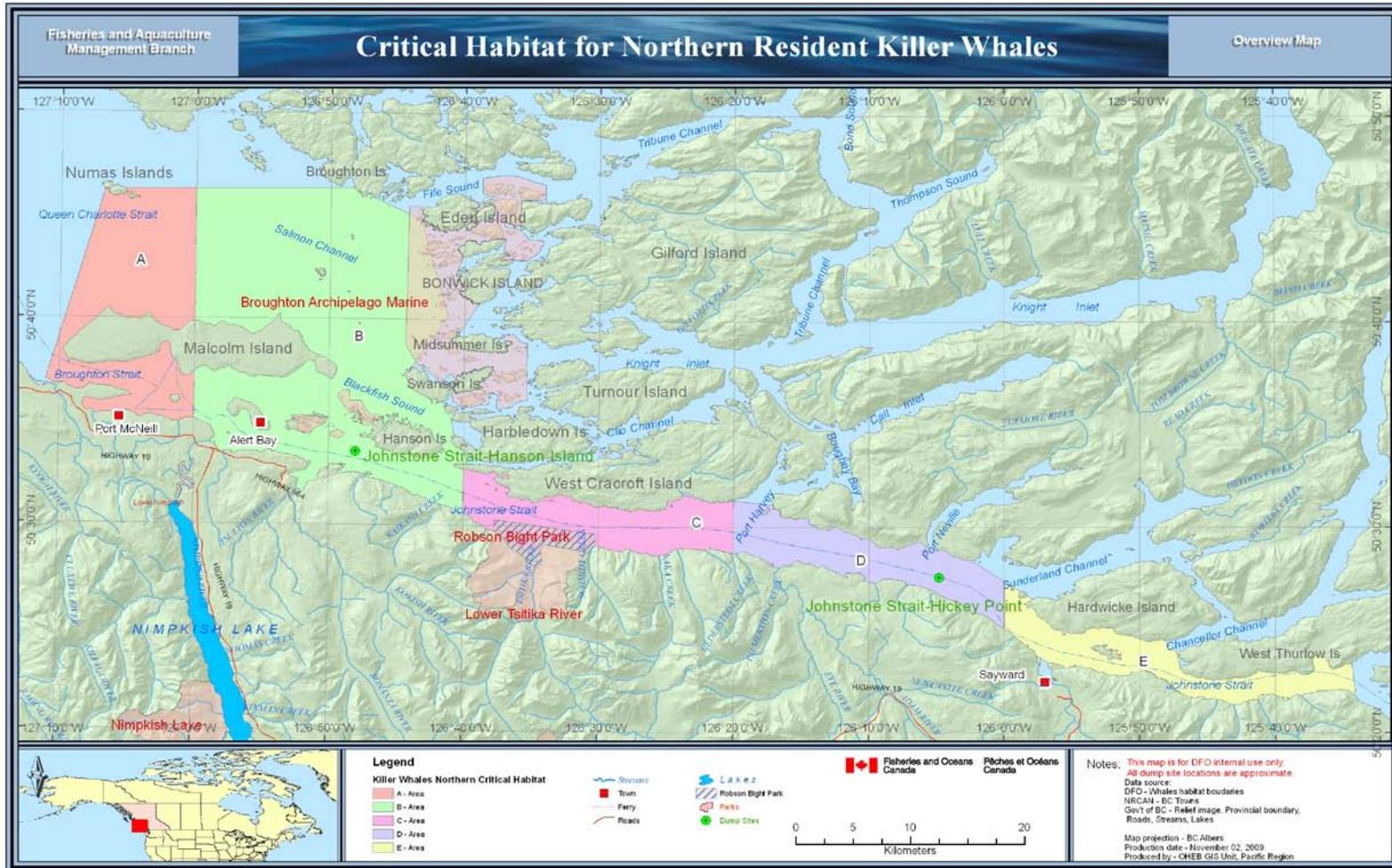


# Seamless with identification of U.S. Critical Habitat...





# Northern Resident KW Critical Habitat





# Features, Functions and Attributes of RKW Critical Habitat

## ● Physical Structure

- Rubbing Beaches (northern residents)
- Areas of unique bathymetry where prey are funneled (high prey density foraging areas)

## ● Water Quality

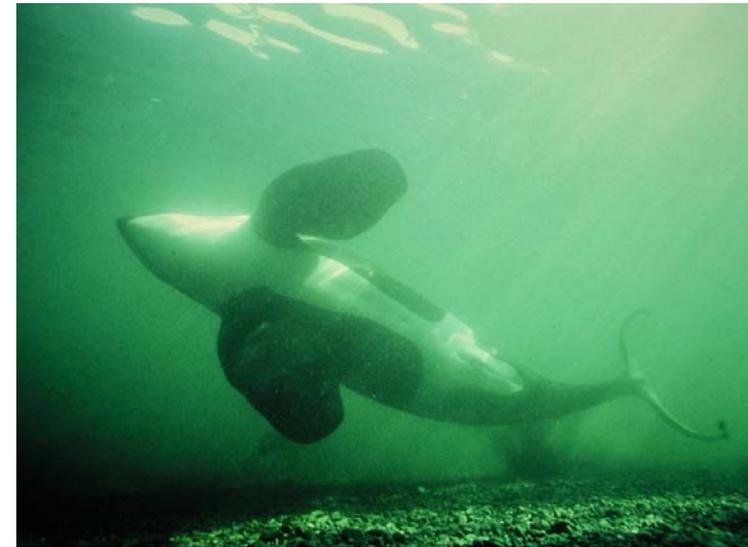
- Water quality of a sufficient level so as not to cause adverse health effects

## ● Prey

- Sufficient quantity, quality and availability of appropriate prey species in order to support recovery

## ● Acoustic Environment

- Natural & anthropogenic sound levels that allow for maintenance of life processes





# Potential Threats\* to Individuals and CH

- Geophysical Disturbance
  - Alteration of rubbing beaches and other important geophysical features
- Contamination
  - Chemical (POP), Biological (pathogens)
- Acoustic and Physical Disturbance
  - Acute (sonar, seismic) & Chronic (vessel, construction)
- Diminished Prey Availability
  - (Fishing, Habitat, Pathogens)

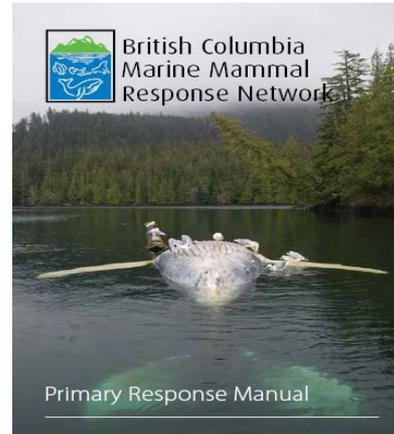
\* As described in the *Recovery Strategy for N and SRKW in Canada (2008)*





# Actions Taken to Protect Resident Killer Whales

- Review of All Activities That Could Disturb, Harm or Kill
- Research
- Fisheries Management
- SARA Action Planning
- Stewardship – Education - Compliance





# CDN/US Collaboration & Cooperation Resident Killer Whale Recovery

- Management
  - Representation on Respective Recovery Planning Processes
  - Open Frequent Dialogue Regarding Respective Legislative Processes to Protect RKW
  - Collaboration/Information on Potential Threat Mitigation Measures
  - Ensure Stewardship and Education Programs Consistent and Collaborative
- Research
  - Prey Quality and Availability
  - Contaminants
  - Physical Disturbance
  - Acoustic Disturbance

Thank-you

