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Ongoing Research Projects

Funding during the first round of proposals (from [January to March 2008](#)) focused on computer modeling activities and gathering historical data for the Strait of Georgia. Funding for the second round ([April 2008 to March 2009](#)) was focused on continuing these core projects plus additional work on field studies to support the computer modeling as well as studies to address the two central questions.

[Summary of the Modelling component](#)

FUNDED PROJECTS 2009-2010

GIS support for SoG ERI: Extended bathymetric and classified seabed dataset

B. de Lange Boom¹, J. Galloway¹, P. Wills¹ and T. Sutherland²

¹DFO, CHS; ²DFO, MEAD

A spatial framework for species-habitat studies and the integration of land influences in the nearshore region

E. Greg¹, G. Jamieson², J. Lessard², J. Schweigert² and P. Wills³

¹SciTech Environmental Consulting; ² DFO-Science; ³ DFO-CHSG

End-to-end ecosystem modeling in support of an integrated management strategy evaluation and decision support tool

C. Fu¹, I. Perry¹, Y. Shin² and A. Peña³

¹PBS, DFO; ²IRD, France; ³IOS, DFO

Large and Small Pelagics Hotspots in the Strait of Georgia

J. Holmes, T. Therriault, K. Cooke, G. Cronkite and J. Schweigert (PBS,MEAD)

Diet and distribution of harbour porpoise and Dall's porpoise in the Strait of Georgia Study Area

L. Nichol¹, J. Ford¹, G. Ellis¹ and A. Hall²

¹DFO,PBS; ²UBC, Marine Mammal Unit

Interactions between the Strait of Georgia's predominant apex predator (harbour seals) and their principle prey (hake and herring): bottom-up limitation or top-down forcing

P. Olesiuk and J. Schweigert (DFO, PBS)

Development of generalized indicators for the Strait of Georgia marine ecosystem

I. Perry¹, D. Masson², R. Sweeting¹, L. Barton¹ and D. Mackas²

¹DFO, PBS; ²DFO, IOS

Forage species in the Strait of Georgia ecosystem

J. Schweigert¹, T. Therriault¹ and C. Robinson²

¹DFO, PBS; ²Parks Canada

Lower Trophic Level Ecosystem Modeling of the Strait of Georgia

A. Peña (DFO, IOS)

Harbour seals as indicators of marine environmental quality: characterizing productivity and contamination in the Strait of Georgia

P. S. Ross (DFO, IOS)

The effect of short-term variability on productivity and ecosystem resilience in the Strait of Georgia

S. Johannessen, R. Macdonald and A. Peña (DFO, IOS)

Historic zooplankton data: archival, tool development, and analysis

D.L. Mackas, M.D. Galbraith and D. Faust (DFO, IOS)

Satellite imaging of phytoplankton and water constituents with MERIS and other optical sensors

J. Gower and S. King (DFO, IOS)

Development of the Strait of Georgia Circulation Model

D. Masson and M. Foreman (DFO, IOS)

Prey quality and food web interactions in the Strait of Georgia

M. Trudel¹, S. Tucker¹, A. Mazumder², D. Mackas³, R. Sweeting¹ and I. Perry¹

¹DFO, PBS; ²University of Victoria; ³DFO, IOS

Strait of Georgia Coho Salmon Smolt Data Recovery and Analysis

J. R. Irvine and L. Godbout

DFO, PBS

Strait of Georgia Ecosystem Model

Richard Beamish, D. Preikshot, C. Neville, R. Sweeting and K. Lange

DFO, PBS

Migration timing of juvenile Pacific salmon in the Strait of Georgia using acoustic tags

C. Neville¹, R. Beamish¹, K. Lange¹, R.M Sweeting¹ and C. Chittenden²

¹DFO, PBS; ² Norwegian College of Fishery Science, University of Tromsø

Cowichan chinook salmon, purse seine survey in the Gulf Islands

Richard Beamish, Krista Lange, Chrys Neville and Ruston Sweeting

DFO, PBS

Pink salmon and coho salmon mortality

Richard Beamish¹, Chrys Neville¹, Rusty Sweeting¹, Krista Lange¹, Kristi Miller², Stuart Johnson², Robert Devlin² and Tony Farrell²

¹DFO, PBS; ²University of British Columbia

Chinook and Sockeye DNA

R. Beamish, K. Lange, C. Neville and R. Sweeting

DFO, PBS

Sediment-water column exchange of nutrients and contaminants in the Strait of Georgia

Terri Sutherland¹, Robie Macdonald², Carl Amos (UK)³, Alan Martin⁴, Jim Galloway⁵,

Diane Masson² and Bob Elner⁶

¹DFO, MEAD; ²DFO, OSD; ³Southampton University, UK; ⁴Lorax Env; ⁵DFO, CHS; ⁶EC-CWS

Comparison of coho salmon in the Strait of Georgia and Puget Sound

Krista Lange, Rusty Sweeting, Richard Beamish
DFO, PBS

Tracer release study of mixing in the Georgia/Fuca estuary

Patrick Cummins¹, Jody Klymak² and Eric Kunze²

¹DFO, OSD; ²University of Victoria

Ocean glider observations of the spring bloom in the Strait of Georgia

J. Gower¹, T. Curran² and A. Pena¹

¹DFO, OSD; ²DFO, CHS

Predator-prey dynamics of mammal-hunting killer whales and harbour seals in the Strait of Georgia

John Ford¹, Graeme Ellis¹ and John Durban²

¹DFO, PBS; ²Center for Whale Research, Friday Hbr, WA

Evaluating Bayesian decision-support tools for ecosystem-based management

Janelle Curtis, Carrie Holt and Ian Perry

DFO, PBS

FUNDED PROJECTS 2008-2009

GIS support for SoG ERI: Extended bathymetric and classified seabed dataset

B. de Lange Boom¹, J. Galloway¹, P. Wills¹ and T. Sutherland²

¹DFO, CHS; ²DFO, MEAD

A spatial framework for species-habitat studies and the integration of land influences in the nearshore region

G. Jamieson, J. Lessard, P. Wills and L. Barton (DFO, PBS)

End-to-end ecosystem modeling in support of an integrated management strategy evaluation and decision support tool

C. Fu¹, I. Perry¹, Y. Shin², A. Peña³, L. Li⁴, T. Pitcher⁴ and B. Fulton⁵

¹PBS, DFO; ²IRD, France; ³IOS, DFO; ⁴UBC; ⁵CISRO, Australia

Large and Small Pelagics Hotspots in the Strait of Georgia

J. Holmes, T. Therriault, K. Cooke, G. Cronkite and J. Schweigert (PBS, MEAD)

Investigation of diet of small cetacean species in the Strait of Georgia Study Area

L. Nichol¹, J. Ford¹, G. Ellis¹ and A. Hall²

¹DFO, PBS; ²UBC, Marine Mammal Unit

Interactions between the Strait of Georgia's predominant apex predator (harbour seals) and their principle prey (hake and herring): bottom-up limitation or top-down forcing

P. Olesiuk and J. Schweigert (DFO, PBS)

Development of generalized indicators for the Strait of Georgia marine ecosystem

I. Perry, D. Masson, R. Sweeting, L. Barton, D. Mackas and R. Beamish

DFO, PBS, IOS, IOS, PBS, PBS, respectively

Forage species in the Strait of Georgia ecosystem; Juvenile Herring

J. Schweigert¹, T. Therriault¹ and C. Robinson²

¹DFO, PBS; ²Parks Canada

Lower Trophic Level Ecosystem Modeling of the Strait of Georgia

A. Peña (DFO, IOS)

Time series of winds with high spatial resolution

W. R. Crawford¹ and L. Neil²

¹DFO, IOS; ²Environment Canada

[Harbour seals as indicators of marine environmental quality: characterizing productivity and contamination in the Strait of Georgia](#)

P. S. Ross and A. H. Buckman (DFO, IOS)

[The effect of short-term variability on productivity and ecosystem resilience in the Strait of Georgia](#)

S. Johannessen, R. Macdonald and A. Peña (DFO, IOS)

[Historic zooplankton data: archival, tool development, and analysis](#)

D.L. Mackas, M.D. Galbraith and D. Faust (DFO, IOS)

[Satellite imaging of phytoplankton and water constituents with MERIS and other optical sensors](#)

J. Gower and S. King (DFO, IOS)

[Development of the Strait of Georgia Circulation Model](#)

D. Masson and M. Foreman (DFO, IOS)

[Prey quality and food web interactions in the Strait of Georgia](#)

M. Trudel¹, S. Tucker¹, A. Mazumder², D. Mackas³, R. Sweeting¹ and I. Perry¹

¹DFO, PBS; ²University of Victoria; ³DFO, IOS

[Strait of Georgia Coho Salmon Smolt Data Recovery](#)

J. R. Irvine¹, L. Godbout¹, D. Ewart², G. Bonnell³, C. Cross³ and R. Beamish¹

¹DFO, PBS; ²DFO, OHEB, Quinsam River Hatchery; ³DFO, OHEB

[Continued development of biophysical model linking the changing climate and ocean conditions within the Strait of Georgia to the shifting dominance of upper trophic level species](#)

R. Beamish, C. Neville and R. Sweeting (DFO,PBS)

[Database rescue](#)

R. Sweeting (DFO,PBS)

[Spiny dogfish in the Strait of Georgia ecosystem and impacts of past and future changes](#)

R. Sweeting, R. Beamish (DFO,PBS)

[Migration timing of juvenile Pacific salmon in the Strait of Georgia using acoustic tags](#)

C. M. Neville and R.J. Beamish (DFO,PBS)

[Pink salmon as an indicator of past and present changes in production in the Strait of Georgia](#)

C. M. Neville and R.J. Beamish (DFO,PBS)

[Sockeye salmon in the Strait of Georgia: DNA analysis of September residents](#)

R. Sweeting and R. Beamish (DFO,PBS)

[Strait of Georgia Book](#)

R. Beamish and S. McFarlane (DFO,PBS)

[Trends in early ocean migrations of juvenile coho and chinook salmon in the Strait of Georgia](#)

R. Beamish, K. Lange and R. Sweeting (DFO,PBS)

[Sediment-water column exchange of nutrients and contaminants in the Strait of Georgia](#)

Terri Sutherland¹, Robie Macdonald², Carl Amos (UK)³, Alan Martin⁴, Jim Galloway⁵, Diane Masson² and Bob Elner⁶

¹DFO, MEAD; ²DFO, OSD; ³Southampton University, UK; ⁴Lorax Env; ⁵DFO, CHS; ⁶EC-CWS

FUNDED PROJECTS TO MARCH 2008

MODELS

[ROMS physical/circulation modeling](#)

D. Masson, M. Foreman and P. Cummins (DFO, IOS)

Lower Trophic Level Ecosystem Modeling of the Strait of Georgia

A. Peña (DFO, IOS)

[OSMOSE - upper trophic level model](#)

C. Fu, Y. Shin, A. Pena, L. Godbout, I. Perry, J. Holmes, Lee, J. Schweigert, J. Boutillier and J. Fargo.

[Ecopath model development](#)

R. Beamish, A. Benson, C. Neville and R. Sweeting

HISTORICAL DATA

[Bibliography](#)

R. Beamish and S. McFarlane

[Standard species codes for invertebrates](#)

G. Gillepsie and L. Barton

[GIS/bathymetry/bottom type](#)

R. Hare, J. Galloway and B. deLange Boom (DFO, CHS)

Current meter data

R. Thomson, S. Mihaly and D. Stucchi (DFO, IOS)

[Meta-data inventory](#)

I. Perry, D. Masson, R. Sweeting, G. Jamieson and L. Barton

Zooplankton data archaeology

D. Mackas, M. Galbraith and S. Romaine (DFO, IOS)

[Forage species; Prawn data; By-catch data/small pelagic fishes; Salmon time series](#)

J. Schweigert, T. Therriault and C. Robinson; Rutherford and L. Barton; R. Sweeting, R. Beamish, C. Neville, and K. Lange; J. Irvine, L. Godbout, J. Curtis and C. Cross

[Pink salmon time series](#)

R. Beamish, C. Neville and R. Sweeting (DFO, PBS)

Small cetaceans sightings and diets

L. Nichol, J. Ford, G. Ellis and A. Hall

["Hot spots" for juvenile salmon; Importance of inlets to salmon; Importance of Gulf islands to salmon](#)

R. Sweeting, R. Beamish, C. Neville and K. Lange

[Novel contaminants \(eEDCs, PPCPs\)](#)

M. Ikonomou, R. Devlin, F. Gobas and C. Helbing

FIELD

[Sediment traps](#)

S. Johannessen and R. Macdonald

[Acoustic tags](#)

R. Beamish

[Harbour seals / hake and herring](#)

P. Olesiuk and J. Schweigert

ANALYSIS

[Chinook DNA analysis](#)

R. Beamish, K. Lange, R. Sweeting and C. Neville

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