

Living Oceans Society

Newsletter No. 1

August 1999

Baja to B.C. to Bristol Bay

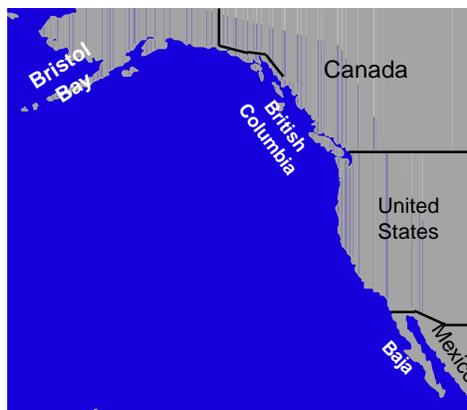
Living Oceans Society works towards a network of marine protected area
for the Pacific Coast of North America

OCEAN CREATURES ARE NOT GUIDED BY POLITICAL BOUNDARIES. The magnificent grey whales migrate from Baja, Mexico to the waters of Alaska, California Sea Lions follow the herring north to BC in the spring, and the endangered Pacific Smelt range from southern California to BC's Central Coast. In addition, rockfish nursery areas in the Strait of Georgia produce juveniles that live the rest of their life in the Strait of Juan de Fuca, sea turtles born on the southern tip of Baja Mexico become an important part of the California ecosystem, and salmon born in BC rivers will pass through Alaska before returning to their spawning grounds.

The fluid and dynamic nature of large marine ecosystems means that management of the ocean must be a coordinated effort amongst countries, states, and provinces. This is not a new concept. The Pacific Salmon Treaty, in place in various forms since 1930, has attempted to coordinate the harvest of salmon stocks in the Pacific Northwest. Often the subject of much criticism these days, this treaty was quite effective in sharing the salmon until 1988. The International Halibut Commission, in which Canada and the US are partners, successfully manages the harvest of halibut from Alaska to Washington State.

However these are fisheries management treaties that focus on determining how much of a specific species can be caught. This species specific approach to marine resource management is failing.

According to the Food and Agriculture Organization of the United Nations (FAO), almost 70% of marine fish are now over fished. In BC the abalone fishery is closed and the rockfish populations are declining precipitously. In Washington state some stocks of salmon have been declared endangered and in Mexico the processing facilities are operating at only 50% of their capacity.



Conservationists and scientists have been calling for ecosystem management of our marine resources for some time now. It is no longer possible to harvest a species without considering how this will impact the marine ecosystem as a whole. The extirpation of sea otters from BC provided the opportunity for sea urchins to diminish the kelp forests as they foraged for food. Kelp forests are very important

habitat for many species including rockfish.

Living Oceans Society believes that a network of marine protected areas, with a core of no-take areas, from Baja to BC to Bristol Bay will help rebuild fish stocks, conserve biological diversity, and provide insurance against the failure of fisheries management policies.

The establishment of a network MPAs on the Pacific Coast of North America is a lofty goal and not one that can be accomplished easily or by any one organization. This will require partnership building within and between countries. However with 17% of the world's protein being derived from fish, we cannot afford to let our fisheries collapse and our ocean become barren. Therefore, the Living Oceans Society is currently identifying some of the challenges we will face and investigating ways we can contribute to resolving them.

At Living Oceans Society we realize that we only understand part of the challenges and only know a fraction of the work that is being done to establish marine protected areas. Therefore we welcome information and updates from groups working to establish MPAs on the coast of Mexico, the US, or Canada. We will run a regular column in our newsletter that highlights projects in the different areas. You can contact us at oceans@livingoceans.org or 250-973-6580.

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From the Executive Director

In 1998 the federal and provincial government released the draft Marine Protected Areas Strategy for Pacific Canada. In this

document, the two governments commit to establishing a network of marine protected areas (MPAs) in BC by the year 2010. Living Oceans Society is very pleased with this commitment.

There are some details in the draft MPA Strategy that we would like to see improved. The most significant of these is the development of minimum protection standards. In its current form, the MPA Strategy recommends that only dumping, dredging, and oil and gas development would be prohibited in all marine protected areas. There is mention of applying additional levels of protection but no commitment to do so. At the Living Oceans Society we feel this is a very weak approach to marine protected areas and could result in more "paper parks" that fail to protect marine biological diversity and promote sustainable fisheries.

The minimum standards outlined in the draft MPA Strategy focus on protecting seabed

habitat. Protecting habitat is a form of protection that has been fairly successful on land and hence governments are quick to adopt similar theories for the ocean. However, since the primary goal of protected areas is to protect the plants and animals, minimum protection standards must be designed to do so. On land the greatest threat to the plants and animals is loss of habitat from logging, mining, and hydro development activities. Therefore terrestrial protected areas in BC prohibit these activities, preserving habitat and, by default, the plants and animals.

An equivalent approach in the ocean would be to protect the seabed habitat and this is exactly what the federal and provincial governments are striving to do in the MPA Strategy. However because the nature of resource use in the ocean is different than that on land, we cannot limit ourselves to habitat protection. The largest resource use of the ocean in BC is fishing, and commercial and recreational fisheries can deplete rockfish populations without touching the rocky reef habitat. Therefore it is imperative that, in addition to protecting the seabed habitat, we protect some areas from all commercial and recreational fishing.

This does not mean that fisherman will be

excluded from vast areas of the ocean. Fishing is an economic and cultural mainstay of our coast and must remain so. However this does mean that within large MPAs, there must be core no-take areas that protect spawning grounds, rearing areas, and areas of high biological importance. Activities outside of the core no-take areas must be managed to ensure they do not compromise the no-take areas. World wide, the establishment of no-take areas has proven beneficial to commercial and recreational fisheries and it is time we started applying this knowledge in our own backyard.

Therefore Living Oceans Society believes that a network of MPAs must include a core of no-take areas and prohibit aquaculture, dumping, dredging, extraction of non-renewable resources, and bottom trawling. In November 1998 we were joined by scientist and conservation organisations from around the world in calling on the federal and provincial governments to improve the MPA Strategy to include these minimum standards. We are thankful that the government has released this strategy for public review and we look forward to seeing our comments incorporated in the final MPA Strategy.

Jennifer Lash

SEASTHEDAY: A CALL FOR ACTION

In August 1998 the federal and provincial governments released the draft MPA Strategy and requested public input. Living Oceans Society was joined by 150 scientists and 40 conservation organizations from 16 countries around the world in calling for improved minimum protection standards. Some of the signators are listed below. For the full list please check our website at www.livingoceans.org

The undersigned call upon the governments of British Columbia and Canada to commit, in their joint MPA Strategy, to establish a network of marine protected areas within the 200 mile limit of Canada's Pacific coast by the year 2010 that:

1. Has a core network of no-take marine protected areas covering all habitat types.

2. Has minimum standards for all MPAs that prohibit: finfish aquaculture, bottom trawling, ocean dumping, dredging, extraction of non renewable resources.

GROUPS

American Oceans Campaign, Centre for Marine Conservation, Cetacean Society International, Cousteau Society, David Suzuki Foundation, Ecology Action Centre, Environmental Defence Fund, Federation of British Columbia Naturalists, Georgia Strait Alliance, Living Oceans Society, Marine Conservation Biology Institute, Natural Resources Defense Council, Northwest Ecosystem Alliance, Raincoast Conservation Society, Sierra Club of BC, Sierra Club US, The Wildlands Project, West Coast Environmental Law Association,

INDIVIDUALS

Endorsements are from individuals. Institutions are listed for identification purposes only.

- Richard Appledorn, Ph.D., University of Puerto Rico
Russ Babcock, Ph.D., University of Auckland, New Zealand
Robin W. Baird, Ph.D., Dalhousie University, Nova Scotia
Bill Ballantine, Ph.D., University of Auckland, New Zealand
Jim Estes, Ph.D., University of California, Santa Cruz, USA
Rod Fujita, Ph.D., Environmental Defense Fund, USA
Michael G. Hadfield, Ph.D., University of Hawaii, Hawaii
Richard Haedrich, Ph.D., Memorial University of Newfoundland, Canada
Jon Lien, Ph.D., Memorial University of Newfoundland, Canada
Don McAllister, Ph.D., Ocean Voice International, Canada
Elliott Norse, Ph.D., Marine Conservation Biology Institute, USA
Irene Novaczek, Ph.D., Pattimura University, Ambon
Daniel Pauly, Ph.D., University of British Columbia, Canada
Cheri Recchia, Ph.D., Great Barrier Reef Marine Park Authority, Australia
Callum Roberts, Ph.D., University of York, England
Michael Soule, Ph.D., Conservation Biology Institute, USA

ABOUT LIVING OCEANS SOCIETY

OUR MANDATE

The Living Oceans Society is a non-profit organization committed to the preservation of marine biological diversity and creation of sustainable fisheries through the establishment of a network of marine protected areas and ecosystem management of our ocean.

The vision of the Living Oceans Society is to ensure all stakeholders are part of marine conservation efforts. By working with stakeholders, participating in multi-stakeholder processes, organizing workshops, and sharing information about our projects, Living Oceans Society will be part of the movement to build new approaches to conserving the health of our ocean.

All Living Oceans Society projects advance:

- * The science of conservation biology
- * Ecological and economic sustainability
- * Co-management with stakeholders and First Nations
- * People as part of the environment
- * The resolution of land claims

WHERE ARE WE ?

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OUR ADVISORS AND BOARD OF DIRECTORS

Dr. Elliott Norse, President, Marine Conservation Biology Institute

Founding Member and Advisor, The Living Oceans Society

Dr. Norse developed the concept of biological diversity in 1980 and he is president and founder of the Marine Conservation Biology Institute. After receiving his Ph.D. in Marine Ecology at the University of Southern California (1975) and his Postdoctoral fellowship at the University of Iowa (1978), he spent 12 years in Washington DC as Marine Biologist with the US Environmental Protection Agency, Staff Ecologist of the Presidents Council on Environmental Quality, Public Policy Director of the Ecological Society of America, Senior Ecologist of the Wilderness Society and Chief Scientist of the Center for Marine Conservation, before founding MCBI in 1996. His 90+ publications include three influential books: Conserving Biological Diversity in Our National Forest (1986), Ancient Forests of the Pacific Northwest (1990) and Global Marine Biological Diversity: A Strategy for Building Conservation into Decision Making (1999). He was given an Evergreen Award in 1996 and a Pew Fellows Award in Conservation and Environment in 1997.

Dr. Michael Soule, Research Professor, University of California-Santa Cruz.

Founding Member and Advisor, The Living Oceans Society

Dr. Soule is the father of conservation biology. He organized the first and second Conferences on Conservation Biology in 1978 and 1985, was the Society of Conservation Biology's first President, is an AAAS Fellow and Past President of the Board of The Wildlands Project. One of the world's leading experts in population biology and island biogeography theory, he is the author or editor of seminal books including Conservation Biology: An Evolutionary-Ecological Synthesis (1980), Conservation and Evolution (1981), Viable Populations for Conservation (1987) and Research Priorities for Conservation Biology (1989).

Dr. Jody Holmes, Sierra Club of BC

Director, The Living Oceans Society

Dr. Jody Holmes has a doctorate in botany from the University of British Columbia and worked for BC Wild from 1995-1998. Dr. Holmes has a long standing interest in conservation biology and ecology as well as having strong management and organizational skills. In the past Dr. Holmes sat on the executive committee of the Canadian Rainforest Network, the BC Grasslands Conservation Council, the BC Endangered Species Coalition, the Hollyhock Leadership Initiative and the Leadership Initiative for Earth. Dr. Holmes currently lives in Smithers BC.

Natasha Hopkins, Funding Liaison, David Suzuki Foundation

Director, The Living Oceans Society

Natasha Hopkins has worked on organizational development and fundraising for the Vancouver-based NGOs BC Wild and Leadership Initiative for Earth and is currently working with the David Suzuki Foundation. Ms. Hopkins holds a Masters Degree in European Studies from the University of Leuven in Belgium, which she earned while completing an internship with the Canadian federal government and the European Commission. Her professional and academic work was focused dually on international forest policy and environmental rights.

Bruce Burrows, Commercial fishermen and environmental activist

Director, The Living Oceans Society

Bruce Burrows has been a commercial fisherman in British Columbia for 20 years. Mr. Burrows currently sits on the board of the Living Oceans Society and T Buck Suzuki Environmental Foundation where he promotes conservation based fisheries management policies. He has spent many years working to protect salmon habitat and has campaigned against salmon aquaculture, poor forestry practices, and the Kemano II Project. He currently lives in Sointula where he is involved in many community activities. Mr. Burrows brings to the Living Oceans Society insight into fisheries management, economic transition issues, and the fishing culture in British Columbia.

Living REEF Project

"It is amazing what you see when you're looking for it!"

Living REEF Project Participant

The Living Oceans Society has teamed up with the Reef Environmental Education Foundation (REEF) to create the Living REEF Project. This project trains recreational SCUBA divers to identify and collect data for 46 fish species. The data will help scientists and conservationists better understand our ocean.

To prepare and improve fish identification skills, volunteers take a course taught by Susan Francis, the Living REEF Project Training Coordinator. This is a three hour training session that includes viewing slides of 46 fish species, advice on how to identify them, and directions for filling out the data scan sheets. Training sessions are available to any dive club, dive shop, or group of interested people.

How Much Does It Cost?

The training session costs \$20.00 per person and includes a three hour training session, a survey slate, underwater data sheets, scan sheets, a fish ID chart, and a membership with the Living Oceans Society.

How Do You Sign Up?

If you would like to find out about our next training session or organize a session of your own, please contact Training Coordinator Susan Francis at

lrp@livingoceans.org or by phone at 250-973-6580.

How Do the Divers Collect Data?

When diving, volunteers take along an underwater slate and record the name of all

Upcoming Training Sessions

July 19,	Victoria
July 26 & 28	Bamfield
August 14 & 15	Port McNeill
August 21 & 22	Powell River
September 18 & 19	Campbell River

the different fish species they can positively identify and their relative abundance. After the dive they record their sightings on an easy-to-use computer scan sheet and return the completed form to Dana Haggarty, the Living REEF Project Science Coordinator. Dana ensures that the forms are filled out correctly and forwards them to the REEF office in Florida.

How is the Data Processed?

The REEF personnel review the completed forms and forward the sheets to the Marine Conservation Science Centre at the University of Miami. There the information is scanned into

a sophisticated database program designed by The Nature Conservancy specifically for marine life management studies. From this data, numerous reports are produced which track species distribution and population trends for specific reefs and for large geographic areas. The data can be viewed on the REEF web site at www.reef.org.

Is the Data Accurate and Useful?

This program has been designed in conjunction with marine scientists from US National Oceanic and Atmospheric Association (NOAA), the University of Miami and The Nature Conservancy. For over two years, a team of marine ecologists and fisheries managers monitored and carefully evaluated REEFs' field methods and reporting procedures. Their study, published in the Bulletin of Marine Science in 1996, confirmed that the collected data are of great value to the scientific community. The Living Oceans Society is proud to contribute to a data collection system of this caliber.

The Living Oceans Society Staff.....



JENNIFER LASH, EXECUTIVE DIRECTOR, FULL-TIME

Jennifer Lash has a BA in Political Science from the University of Toronto and is a PADI certified diving instructor. Jennifer has been in the forefront of the movement to raise the profile of BC's biologically rich and vulnerable marine environment since 1992.

As Executive Director, Jennifer is responsible for the day to day running of the organization, program design and implementation, and fundraising. In her campaign work Jennifer is a key player in the Central Coast Land and Coastal Resource Management Process, working to identify candidate MPAs and develop marine planning policy.



JEFF ARDRON, GIS TECHNICIAN

Jeff Ardron has a background in computer science and strong organizational skills. He was one of the founders of the Malcolm Island Environmental Protection Society where he led the battle to restrict the use of pesticides in the North Island region. As GIS Technician Jeff uses mapping software to turn information into user friendly maps that will help us identify potential marine protected areas and communicate this information to the public. Jeff also manages our database and keeps all the computers in the office running smoothly.

West Coast Water and Oil Do Not Mix

In May 1999 the Living Oceans Society and Sierra Legal Defence Fund convened a meeting of conservation, labour, and First Nations organizations concerned about the threat of offshore oil and gas development in BC. Out of this meeting grew the BC Alliance for the Preservation of the Offshore Oil and Gas Moratorium which now has over fifty members, with more groups joining every day. This Alliance is sending a clear message that the current policy to prohibit offshore oil and gas on the Pacific Coast of Canada must remain in place.

“The health of our coastal communities and the health of our ocean will be in jeopardy if we start drilling for oil” says Jennifer Lash, Living Oceans Society Executive Director and spokesperson for the Alliance. Developing this industry would be a slap in the face to fishermen, community groups, tourism companies, and conservation organizations that are working so hard to conserve our ocean and our fisheries.”

The current moratorium, in place for over 25 years, has prohibited oil and gas development and ensures that oil tankers do not travel through our inside waters. However, the recent announcement from Northern Development Commissioner John Backhouse to conduct

Over 50 conservation, labour, social justice, and First Nations groups are calling the federal and provincial governments to maintain the offshore oil and gas moratorium.

consultations to measure support for lifting the moratorium indicates that the provincial government is responding to the request of the North Coast Oil and Gas Task Force, a group of eight Prince Rupert business men working to lift the moratorium.

The BC Alliance for the Preservation of the Offshore Oil and Gas Moratorium has prepared a Call for Action urging the federal and provincial governments to maintain the moratorium. Over fifty conservation, labour, social justice, and First Nations organizations have signed onto this call for action.

The North Coast Oil and Gas Task Force claims that this industry will provide jobs and prosperity to the beleaguered Northeast. However, the Alliance is quick to point out that the joint federal provincial Offshore Exploration Environmental

Assessment, conducted in 1986, warned that local job expectations were unrealistic given the highly skilled nature of drilling and exploration.

“There will be few, if any, opportunities for unemployed loggers and fishermen and minimal benefits for coastal communities.” says Lash. “However, there will be a dramatic increase in the threat to existing industries.”

Oil spills threaten sea birds, fish, shellfish, and the eggs and larvae of all marine species as well as the fishing and tourism industries. Despite advances made in technology, in 1997 there were 351 oil spills world-wide from exploratory drilling and tankers.

Members of the Alliance include The Sierra Legal Defence Fund, Living Oceans Society, Greenpeace, T. Buck Suzuki Environmental Foundation, United Fishermen and Allied Workers Union, Georgia Strait Alliance, Society Promoting Environmental Conservation, Reach for Unbleached, and the Canadian Parks and Wilderness Society, Pacific Coast Federation of Fishermen's Associations, Comox Indian Band, Alberni Social Justice Group, Beecher Bay First Nations.

To join the
BC Alliance for the Preservation of the Offshore Oil and Gas Moratorium
contact Living Oceans Society at
oceans@livingoceans.org



KAREN SOMMER, RESEARCHER,

Karen Sommer has been involved in the fishing industry since she was 14 and has a diploma in cooking from Malaspina University College. Karen is researching and writing a seafood eco-cookbook which provides shoppers with information about purchasing seafood that has been caught in a sustainable manner (e.g. wild salmon over farmed salmon).



SUSAN FRANCIS, LIVING REEF PROJECT TRAINING COORDINATOR

Susan Francis has a degree in biology and is a PADI certified diving instructor. Susan spent three winters in the Caribbean teaching diving and training recreational divers to collect data. As Training Coordinator, Susan has designed an expanded pacific coast training protocol and is currently providing training sessions to interested community groups.



DANA HAGGARTY, LIVING REEF PROJECT SCIENCE COORDINATOR,

Dana Haggarty has a degree in marine biology and is currently working on her masters at the University of British Columbia. Dana helped create the Living REEF Project and has worked on this initiative as both a contractor and a volunteer. As science coordinator her primary function is to ensure that the data

is collected and stored in a scientifically defensible manner and she is developing a list of invertebrate species to be included in an expanded program in 2000.



Lucy "Mudpuddle" Lash, Organizational Health Coordinator

Lucy has a degree in cat chasing and extensive independent study in mud bathing. Lucy keeps the rest of the staff on their toes by gently nudging us with her wet nose. Her presence is front and centre, especially when she lies in the middle of the office and takes up most of the available space. Lucy's greatest contribution is making sure Jennifer leaves her computer to take her for walks.

CHALLENGES TO ESTABLISHING A NETWORK OF MPAs ON THE PACIFIC COAST OF NORTH AMERICA

LEGAL DIFFERENCES BETWEEN COUNTRIES

Mexico, the US and Canada have different legal systems which will present some challenges to coordinating MPA initiatives on the Pacific Coast. For example, in the US, state jurisdiction of marine resources extends 3 nautical miles to sea (an area referred to as the territorial sea). The National Marine Fisheries Service manages the remainder of the ocean to the Exclusive Economic Zone through regional management boards. In Canada, however, the federal government manages the water column and all the marine life in it. The provincial government has jurisdiction over the seabed of the "inland water" and the federal government has jurisdiction over the remaining seabed. At present, however, there is no clear agreement of what constitutes "inland" waters. Baja Mexico is also managed by state and federal governments.

LEVELS OF PROTECTION

There is no agreement on what constitutes an effective network of marine protected areas. In BC, conservation groups are supporting the establishment of a network of MPAs with a core

of no-take areas. Similar work is being done in California. In Washington state there is an initiative to establish voluntary no-take zones but this program lacks the enforcement of state or federal legislation. In Alaska's Glacier Bay National Marine Park, public outcry is blocking the establishment of any no-take areas within its boundaries. In order to establish an effective network of MPAs, all three countries need to commit to a core of no-take areas within a network of marine protected areas.

MANAGEMENT AND ENFORCEMENT

The effectiveness of marine protected areas relies greatly on the development of management plans and enforcement. Poor enforcement will result in more "paper parks". For example, in Mexico the Cabo Pulmo National Marine Park, covering 7,111 hectares, is still threatened by coral reef bleaching, damage from boat anchors and two stroke engines, the illegal removal of marine souvenirs, and fishing.

PUBLIC SUPPORT

Many stakeholders and the general public do not yet understand the value of marine protected areas and especially no-take zones. In Washington State concerned scientists, conservationists, and residents have struggled to establish a National Marine Sanctuary in the Northwest Straits, a portion of

Juan de Fuca Strait and northern Puget Sound. This was opposed despite the fact the commercial and recreational fishing would be permitted throughout. However in other parts of the world, such as New Zealand, commercial and recreational harvesters are seeing the benefits of MPAs, especially no-take zones, in rebuilding the fish stocks.

DESIGN OF MARINE PROTECTED AREAS

Although research indicates that marine protected areas help rebuild fish stocks and protect marine biological diversity, it is still unclear how big MPAs need to be and where they should be located. One thing that is evident is that the design of marine protected area must be based on the values of the ocean. Living Oceans Society believes that principles of MPA design will emerge from both scientific research and experience.

Living Oceans Society is working with other organizations to help establish a network of marine protected areas, including a core of no-take areas, from Baja to BC to Bristol Bay. Some of the steps we are taking are listed below.



In September 1999, Living Oceans Society will be meeting with a group of scientists from England, Newfoundland, New England, California, and BC to discuss how to design marine protected areas. The results of this session will be printed in our next newsletter!



In the Spring of 2001, Living Oceans Society will be hosting the Baja to BC to Bristol Bay Conference. This conference will bring groups together to share their experiences and build cross border partnerships. Look for more information in upcoming newsletters.

The Living Oceans Society is currently working with other conservation groups from BC and Washington State to identify the political, legal, and cultural differences between our countries in order to best facilitate a transboundary marine protected area.



Wave reviews

First-year Results Show Sanctuary No-take Zones Beginning to Change Fish and Lobster Populations

After their first full year of protection, the Florida Keys National Marine Sanctuary's 23 no-take zones are showing signs of restoring spiny lobsters and fish populations, according to results from the long-term monitoring program.

In July 1997, the sanctuary established a pioneering marine zoning program that includes three types of no-take zones: eighteen small sanctuary preservation areas, four special use areas and an ecological reserve. The zones comprise less than one percent of the sanctuary but protect much of its critical coral reef habitat. That same year, the sanctuary initiated a five year monitoring program looking at changes in ecosystem function and populations of key species.

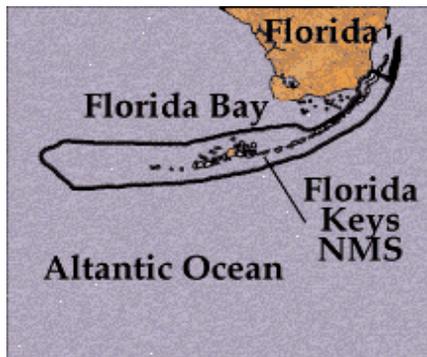
"We are surprised how quickly animal populations are responding to these no-take zones. It's probably a good indication of the intense exploitation pressure they are under. We're looking forward to many more surprises from these zones over the coming years," said Ben Haskell, sanctuary science coordinator. Carolyn Cox and John Hunt of the Florida Department of Environmental Protection used teams of divers to compare lobster populations in fifteen sanctuary no-take areas with reference sites open to fishing. The divers found significantly more legal lobsters (carapace length greater than 76 millimeters) in no-take areas during both study years, 1997 and 1998.

In 1997, Cox and Hunt found that the size of legal lobsters was the same in no-take areas and reference sites. But by 1998, lobsters in the no-take areas that exceed legal size were significantly larger than legal lobsters in reference sites.

First Year results from a second lobster study provide evidence of increased abundance and size in the no-take areas. The sentinel lobster fishery project used a commercial fisherman fishing traditional trap gear to compare lobster populations in Western Sambo Ecological Reserve with populations in Middle Sambo and Pelican Shoals, nearby areas that are open to fishing. Results from 1998 indicates that lobsters were significantly larger and more abundant in the reserve compared to outside reference sites.

The average annual abundance of economically important reef fish (yellowtail snapper, hogfish, and grouper) were compared to long-term baseline data, and between no-take zones and comparable reference sites. Grouper analysis excluded two small rarely targeted species: graysby and coney. In all cases, the highest average abundance were observed in no-take zones in 1998, the first full year of the no-take protection, according to a preliminary analysis under the direction of Dr. Jim Bohnsack with the National Marine Fisheries Service. Grouper in the remote Torugas region were more abundant than in the rest of the Florida Keys.

The Florida Keys National Marine Sanctuary, designated in 1990, protects 2,800 square nautical miles of critical marine habitat, including coral reef, hard bottom, seagrass meadows, mangrove communities and sand flats. In addition to the marine zoning program, key sanctuary initiatives include a water quality protection program,



Wave Reviews is a regular column that features marine conservation success stories. If you have a success story to share, send it to us at oceans@livingoceans.org

Fish For Thought

The Living Oceans Society is writing an eco-cookbook called *Fish For Thought*. This is an informative book with the intention of providing exciting recipes and fun facts while increasing awareness of the environmental issues surrounding fisheries. In addition the *Fish For Thought Eco-Cookbook* will bring to readers the lives of fishermen and the communities they live in.

The idea for the *Fish For Thought Eco-Cookbook* came about as a result of the 1998 commercial salmon fishing season. Although the sockeye runs were low and some coho runs were in serious trouble, the chum fishery was plentiful. However, since it is thought by many that sockeye is the only salmon worth eating, there was no demand for chum salmon. Consequently the prices were drastically low, processing plants stopped buying, and fishermen were forced to quit fishing even though there was plenty more chum salmon to catch. If more consumers understood that chum is a delicious and nutritious species of salmon, an economically and ecologically sustainable fishery could have occurred in 1998.

Living Oceans Society recognized that there are many ways that consumers can influence the way we harvest the bounty of the sea. Issues that this book will tackle include the rationale for wild salmon over farmed salmon, innovations in prawn trawling gear to reduce bycatch, and reasons why none of us should be eating abalone. By providing information to the consumer on how to purchase and prepare sustainably caught seafood both our ocean and our coastal communities will benefit.

The Living Oceans Society believes that the *Fish For Thought Eco-Cookbook* will appeal to the growing number of conscientious shoppers. The growth of the organic food market (growing 20% every year in Canada and the United States) indicates that more and more people are showing a concern about the products they purchase for reasons which include personal health issues and impacts on the environment. The growing complexities surrounding fisheries necessitates a book such as this one to help shoppers make wise decisions when buying seafood.

We will be looking for a publisher in the near future and hope to have this book on the shelf within a year. In the meantime if you have any suggestions for this book please do not hesitate to share your ideas with us.

Living Oceans Society depends on a lot of people for a lot of help. We would like to extend a special thanks to:

Alice Aguilar, Mat Ardron, Miki Arifi, Vern Aro, Andy Barlak, Bruce Boyles, Howard Breen, Win & Bert Burrows, Caroline Gibson, Rebecca Kayfetz, Steve Lacasse, Andy Lamb, David Lane, Laurie MacBride, Mike Magee, Allan McDonnell, Jack Noll, Dr. Elliott Norse, Don Randall, Theresa Tynjala, Gina Rossi, John Shuttleworth, Peter Slobodian, Catherine Stewart, Aaron Tinker, Karen Wristen, the 100 people who are busy collecting data for us while they dive this summer, and everyone else who has offered us a helping hand.

Thank you

You'll be hearing from us....

In April 1999, Living Oceans Society hired Jeff Ardron to set us a database that could really work by helping us organize our membership, contacts, and fund-raising efforts. In addition, we wanted something that would help us disseminate information to our supporters. Jeff researched the various options and settled on a program called *ebase*. This software has been designed specifically for small to medium sized non-profit organizations such as Living Oceans Society. The *ebase* software is free and when used with *FileMaker Pro*, Jeff was able to tailor the database to suit our needs. We are now in the process of adding the names of our many supporters. We will be able to provide updates to our supporters by email, keeping you aware of upcoming events and exciting news.

Living Oceans would like to extend a special thanks to the *ebase* support staff, especially Alice Aguiler and Jack Noll, who have helped Jeff master this exciting new tool.

If you would like to be added to our database send an email to oceans@livingoceans.org or call us at 250-973-6580.

Send us your Canadian Tire Money!!!
Living Oceans Society is always in need of general supplies that we can purchase at Canadian Tire. If you donate your stash to us we will put it to good use!



Become a friend of the living oceans society

Your generous support will help the Living Oceans Society continue to develop and implement programs designed to protect our ocean.

Name: _____ Address: _____

City/Town: _____ Province: _____ Postal Code: _____

Phone Number: _____ Fax Number: _____ Email: _____

Choose Your Species

- | | | |
|--|--|--|
| <input type="checkbox"/> \$10.00 Wolf Eel | <input type="checkbox"/> \$50.00 Killer Whale | <input type="checkbox"/> \$200.00 Steller Sea Lion |
| <input type="checkbox"/> \$30.00 Red Irish Lord | <input type="checkbox"/> \$100.00 Tiger Rockfish | <input type="checkbox"/> \$500.00 King Crab |
| <input type="checkbox"/> \$1000.00 Giant Octopus | <input type="checkbox"/> Other | |