

# ABALONE RECOVERY

## An update on the recovery of abalone in British Columbia

August 2003

The **ABALONE RECOVERY TEAM** has completed a recovery strategy for the **NORTHERN ABALONE** (*Haliotis kamtschatkana*). The abalone is a marine mollusc related to snails and whelks that has been declining in numbers and distribution in surveyed areas of British Columbia (BC) since the late 1970s. Declines in abundance by more than 75% prompted the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) to list the abalone as **THREATENED** in 1999.

### Research

Currently, Fisheries & Oceans Canada and Parks Canada Agency scientists are conducting a co-operative study in and around Pacific Rim National Park Reserve, exploring methods and factors that improve abalone reproduction and recruitment in selected locations. The results will provide information on abalone life history traits that may help in designing, monitoring and assessing recovery actions that will sustain the abalone population in BC.



In 2002, Parks Canada researchers began development of an oceanographic simulation model and field sampling of currents and larvae to examine potential sources and sinks for young abalone. They will also identify areas that possess the greatest potential of acting as seed areas in an abalone rebuilding plan.

In 2003, Fisheries & Oceans Canada researchers tagged 1,200 “surf” abalone, stunted abalone found in wave-swept areas, and transplanted them to more favourable sheltered sites to increase reproductive capability. Tagging experiments are designed to investigate the optimum densities for breeding aggregates, monitor movement and survival, enhance the population through juvenile out-planting and monitor recruitment. As juvenile abalone are cryptic, hiding in rocks and crevices, and difficult to study, innovative methods to assess juvenile recruitment are also being developed. Habitat type, competitors (e.g., sea urchins) and predators (e.g., sea stars, crabs, octopus) relative to the distribution, abundance and size of abalone will also aid in identifying critically important areas to the abalone rebuilding plan.

### Habitat Stewardship Program

Four projects on abalone rebuilding are underway in 2003/4 with \$155.5K funding from the federal government’s Habitat Stewardship Program for Species at Risk. The projects involve coastal First Nations and coastal communities in outreach

activities and community-driven programs. Info on the Habitat Stewardship Program at: [http://www.speciesatrisk.gc.ca/media/back2\\_e.cfm](http://www.speciesatrisk.gc.ca/media/back2_e.cfm).

**Bamfield Huu-y-aht Community Abalone Project**

**Years 1, 2, 3 & 4 (2000-2004)**

**Total: \$140,573**

The Bamfield Huu-ay-aht Community Abalone Project (BHCAP) was initiated to recover abalone populations on the south west coast of Vancouver Island and to raise awareness about abalone conservation throughout western Canada. Partner support from the Bamfield Marine Sciences Centre (BMSC), the Huu-ay-aht First Nations and the Bamfield Community School have built a broad foundation for success. BMSC brings research infrastructure, thousands of visiting students and outreach programs like <http://www.oceanlink.island.net/>. The Bamfield Community School provides a strong learning environment for the community youth. Huu-ay-aht and Bamfield communities provide a commitment to recover abalone in Barkley Sound and the will to carry out the project. Volunteers are involved in every aspect, from SCUBA studies of wild and hatchery-raised abalone to Abalone Coast Watch to discourage poachers. High school students who take abalone action plans back to their communities play an important role in abalone education. The project is continuing in 2003/4.

**Gwa'sala-'Nakwaxda'xw Fisheries Program Year 4 (2003/4)**

**Total: \$18,510**

Entering into its first year, the Gwa'sala-'Nakwaxda'xw project aims to establish abalone stewardship and awareness in the central coast of BC. The project will be working with the community to raise awareness on the threatened status of

abalone and to fill knowledge gaps about species distribution in the central coast, and to establish stewardship areas in which to initiate an Abalone Coast Watch program.

**Haida Fisheries Program**

**Years 1, 2, 3 & 4 (2000-2004)**

**Total: \$195,000**

A local stewardship group, the Haida Gwaii Abalone Stewards (HGAbS), focuses on rebuilding abalone in Haida Gwaii (Queen Charlotte Islands), which has large tracts of good habitat but depressed abalone populations. The group has developed a Community Action Plan, providing local focus to the abalone recovery activities. Project activities include regular meetings of a local working group; developing materials, hosting community workshops and delivering presentations to promote conservation awareness; establishment of two large abalone stewardship areas including an abalone research area in Juan Perez Sound; development of an Abalone Watch program focusing on community surveillance to deter illegal harvests; testing of abalone rebuilding techniques; and monitoring of abalone populations in order to gauge the success of stewardship efforts and provide feedback to the community. The project is continuing in 2003/4.

**Kitkatla First Nation**

**Years 1, 2 & 3 (2000-2003)**

**Total: \$100,000**

The purpose of the Kitkatla project was to undertake habitat and population assessments in selected areas to monitor recovery of the abalone population in the Kitkatla area of the north coast of BC. Activities over the past three years included: construction of abalone rehabilitation sites to serve as a focus for future abalone recovery activities,

development of a stock rebuilding program, dive surveys with local community members, printing brochures and posters to raise local awareness, and initiating a Coast Watch Program. In developing the Coast Watch program, volunteers have been trained on how to report illegal or suspicious activities.

**Kitasoo Fisheries Program  
Years 2, 3 & 4 (2001-2004)  
Total: \$110,650**

The Kitasoo Abalone Stewardship Project's (KASP) primary focus is on combining local community stewardship and awareness with habitat enhancement and population rebuilding, with the overall objective of successful rehabilitation of the abalone population to self-sustaining levels within the Kitasoo Traditional Territory. Activities included establishing stewardship sites, local monitoring and local education and awareness campaigns. Stewardship sites are used for rehabilitation activities, including deployment of abalone "condos" (enhancement structures) for juvenile refugia, aggregating adults to increase reproductive success, and identifying essential and productive abalone habitat for protection. Local monitoring of these areas by the project staff and community has been an integral component. Local community awareness is maintained through a variety of continuing outreach efforts including pamphlets, updates on the community television announcement channel and workshops with local residents describing new stewardship activities. A pamphlet targeting recreational boaters and tourists frequenting the region has expanded the program. Youth curriculum developed by the project continues to promote the conservation ethic and provide youth with opportunities to become involved in

abalone recovery. The project is continuing in 2003/4.

## Rebuilding with Aquaculture

### The Bamfield Huu-ay-aht Community Abalone Project

<http://oceanlink.island.net/oinfo/Abalone/abaloneupdate.html>



has recently signed an agreement with Fisheries & Oceans Canada to carry out their contribution to abalone recovery over the next 5 years. Out-planting of hatchery-raised abalone to the wild is anticipated this summer. BHCAP is also conducting research on abalone biology and ecology, and raising awareness and support for abalone recovery. With \$500K funding provided from the Province of BC's Economic Measures Fund over 3 years, they also aim to establish abalone aquaculture as an economic opportunity for the local community.

### Malcolm Island Shellfish Co-operative

<http://www.bc-abalone.com/> is currently working towards an agreement with Fisheries & Oceans Canada. Out-planting of hatchery-raised abalone to the wild is being anticipated for December 2003. Located in Sointula, MISC offers a community commitment to furthering research on abalone rearing, community-involvement and raising awareness and support for abalone recovery, as well as

economic opportunity within the community.

A precautionary protocol for broodstock surveys and collection has been published and is available on the internet:

[http://www.dfo-mpo.gc.ca/csas/Csas/English/Research\\_Years/2002/2002\\_126\\_E.htm](http://www.dfo-mpo.gc.ca/csas/Csas/English/Research_Years/2002/2002_126_E.htm)

### Surveys

Surveys of key index sites have been conducted by Fisheries & Oceans Canada since 1977 to monitor abalone population abundance and to evaluate recovery. Index sites in the Queen Charlottes Islands were most recently surveyed in 2002 and in the Central Coast of BC in 2001. Surveys have just been completed in spring 2003 in the northern portion of the west coast of Vancouver Island. Parks Canada Agency recently conducted surveys in 2002 and spring 2003 within the Pacific Rim National Park Reserve.

### Coast Watch & Enforcement

Despite the complete ban on fishing harvests since 1990, there is still no sign of recovery of the abalone population. Illegal harvest is still considered the most significant threat, reducing numbers and spreading mates too far apart for successful reproduction.

To stop the ongoing problem of illegal abalone harvesting, Coast Watch programs are being developed under the lead of the Bamfield Huu-ay-aht Community Abalone Project, Gwa'sala-'Nakwaxda'xw Fisheries, Haida Gwaii Abalone Stewards, and KITASOO Abalone Stewardship Program. Co-operation and support in reporting illegal activities is also being provided by other concerned organizations, such as the **Pacific Urchin Harvesters Association**  
<http://www.puha.org/>.

Reports of abalone poaching receive high priority with Fisheries & Oceans Canada Conservation and Protection Officers. Directed funds mean abalone-related reports receive attention. Local Fishery Officers are also working with groups like the Haida Gwaii Abalone Stewards in developing local Coast Watch programs. Increased fines through the courts and seizure of gear are helping to create deterrents. Genetics studies are ongoing to identify illegal abalone in the marketplace.

More info on convictions is available at:  
[http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/abalone/news\\_e.htm](http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/abalone/news_e.htm).

#### **HELP! Stop the illegal harvest and sale of northern abalone**

*All abalone fisheries in BC are closed. There are no fisheries for the sale of northern abalone anywhere in the world. Hatchery-raised northern abalone are not yet available for sale. So, if you see northern abalone or BC abalone for sale, it has been obtained ILLEGALLY!*

- DO NOT buy or eat wild BC abalone.
- REPORT suspicious or illegal boating activity in Pacific waters to:

**1-800-465-4336**

### Workshop for Rebuilding Techniques for Abalone in BC

An international "Workshop on Rebuilding Techniques for Abalone in British Columbia", was held in Nanaimo, BC January 14-16, 2003. This workshop provided a unique opportunity for a diverse group of individuals working on different aspects of rebuilding abalone populations to discuss enhancement of abalone in BC. Proceedings are being published in the Journal of Shellfish Research.

## Integration with Sea Otter Recovery

Defining the Abalone Recovery Strategy's long-term goal to establish a self-sustaining abalone population will be a challenge to researchers, particularly with the recovery of sea otters, which eat abalone. Formerly extirpated from BC, sea otters remain threatened (COSEWIC 1996). The two recoveries will be integrated to the extent possible by incorporating the effects of sea otter predation in defining a 'self-sustaining' abalone population. Although sea otters are not expected to threaten the abalone's survival, the profound effects from sea otters will mean that the demographics of a self-sustaining abalone population will be very different in areas where sea otters live compared to other areas. Further info on the Sea Otter Recovery Strategy: [http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/sea-otters/default\\_e.htm](http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/sea-otters/default_e.htm)

Further reading of related interest: Clark, J. A. and E. Harvey. 2002. Assessing multi-species recovery plans under the Endangered Species Act. *Ecological Applications*. 12(3), 2002. pp. 655-662.

*The federal Minister of Fisheries and Oceans Canada has authority for marine wildlife under the Canada Fisheries Act and leads the recovery team for the abalone. The federal Parks Canada Agency is also involved in abalone recovery because of its responsibility for the coastline of Pacific Rim National Park, and because of its proposed Gwaii Haanas National Marine Conservation Area. The Province of BC is also involved, having jurisdiction over the sea bed and foreshore under the BC Land Act, and aquaculture facilities being subject to licencing under the Aquaculture Regulation of the BC Fisheries Act. Recovery Implementation Groups in local communities are those who are working closely with the recovery team to implement recovery programs.*

## Species at Risk 2004

The Species at Risk 2004: Pathways to Recovery Conference, is being held in Victoria, BC, March 2-6, 2004  
<http://www.speciesatrisk2004.ca>

## Links for Further Info

Fisheries & Oceans Canada Abalone Page:  
[http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/Abalone/default\\_e.htm](http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/Abalone/default_e.htm)

Fisheries & Oceans Canada Species At Risk Page (UNDER CONSTRUCTION):  
[http://www.pac.dfo-mpo.gc.ca/sara/default\\_e.htm](http://www.pac.dfo-mpo.gc.ca/sara/default_e.htm)

Species At Risk Act Public Registry (NEW):  
<http://www.sararegistry.gc.ca/>

National Recovery Strategy for the Northern Abalone in BC: [http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/fisheriesmgmt/abalone/AbaloneRecovStrategy\\_e.htm](http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/fisheriesmgmt/abalone/AbaloneRecovStrategy_e.htm)

National Recovery Action Plan for the Northern Abalone in BC (Draft): [http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/fisheriesmgmt/abalone/Abalone\\_action%20plan\\_dec02.htm](http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/fisheriesmgmt/abalone/Abalone_action%20plan_dec02.htm)

Recovery Newsletter (see abalone article in 'News Bites')  
[http://www.speciesatrisk.gc.ca/publication/s/recovery/june03/index\\_e.cfm](http://www.speciesatrisk.gc.ca/publication/s/recovery/june03/index_e.cfm)