Fisheries and Oceans Canada | Pêches et Océans Canada

Canada

Selective Fishing Newsletter

Pacific Region

Vol. 1 Issue 3 January 2002

Welcome to the final edition of the Selective Fishing Newsletter

The intent of the Selective Fisheries Program is to develop fishing gear and methods first through scientific experimentation, moving to demonstration-level fisheries, then on to implementing new techniques as part of regular fisheries. Although the funding for the Program will end in March, 2002, the lessons learned and the quest for continued improvements to fishing gear and methods will proceed into the future. The sustainability of our resources is essential, and achievable, through efforts by First Nations, commercial and recreational harvesters working to preserve the resource for today and for future generations.

For more information or to view past newsletter issues, please visit our website at:

http://www-comm.pac.dfo-mpo.gc.ca/english/selective/default.htm

Featured in this Issue:

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Canada

Experimentation

GRIDS IN SEINE BUNTS

RELEASE OF BYCATCH PRIOR TO TAKING THE CATCH ABOARD

For a number of years, harvesters on the East Coast of Canada have been experimenting and using grids in their fishing gear. Their strategy is to release bycatch in the water to avoid the increased mortality associated with sorting on deck.

Experimentation with grids in seine bunts here on the West Coast were initially undertaken as a potential solution to a persistent problem with mortality of immature salmon in Area 20 (Juan de Fuca Strait). This common sense approach to the problem in Area 20 and other areas is based on the principle that if small salmon swim out of the bunt before the catch is taken aboard, their survival rate is bound to be higher.

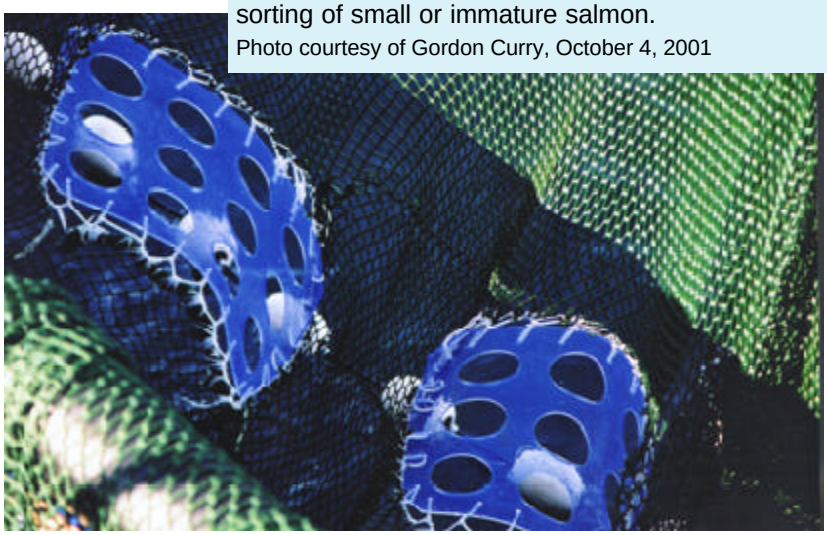
Under the Selective Fisheries Program, grids were again tested in Barclay Sound as part of a large 1998 experiment looking at many mortality effects associated with commercial seine, troll and gill net fishing. This experiment, and a subsequent one by Bob Rezansoff (CFV Taaska), showed that rigid plastic grids allowed the release of immature or small salmon. This approach avoided the gilling of salmon in a standard bunt by using a small knotless web with the grids.

Although these experiments started to solve some of the questions surrounding grids, many others remained. Some of these questions included:

- How do grids compare to a standard bunt with 70 or 100 mm web?
- Where should grids be located in the bunt?
- How many grids should be installed in a bunt to be effective?
- What type and size of bunt web should be used to minimize gilling?
- What operating procedures are required to allow the escape of bycatch?
- What grid opening width (and shape) will release what size range of fish?
- What material should grids be made of?
- What colour best attracts salmon and other species to the escape route?
- What is the cost to convert to a bunt with grids?

As you can see, what seems to be a simple solution soon has many valid questions requiring investigation. Intuition and experience with this gear can help guide the harvester in answering these questions and yet without well designed experimental design there is often no proof.

continued...



Clear plastic grids in the bunt (small mesh knotless web) of a commercial seine net being tested to allow in-water sorting of small or immature salmon.
Photo courtesy of Gordon Curry, October 4, 2001

Experimentation

GRIDS IN SEINE BUNTS

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Paul Brajcich (CFV Franciscan #1) approached this challenge from a different perspective. He proposed to test a range of flexible materials that would be more "net and people friendly". Paul's grid testing over the past three seasons has focused on narrowing the choices around grid material (strong enough), colour (including clear), opening shape and size.

At this point, through his testing it appears salmon are attracted to the clear grid material and significant numbers of small salmon use this escape method. Some salmon get trapped in the grid openings or push through, while the rigid slots appear to have little problem with this. Answers to the many questions are being revealed, however analysis of all the data is required to determine what has been proven and what requires further testing next season.

Paul Brajcich and crew on the CFV Franciscan #1 in Johnstone Strait with chums in the net and giving the non-target fish a chance to escape through the grids into the catcher bags for sampling.

Photo courtesy of Gordon Curry, October 5, 2001

Implementation

SELECTIVE BEACH SEINING

THE T'SOU-KE FIRST NATION APPROACH

The T'sou-ke First Nation have explored a number of selective fishing methods. They developed and operated a trap net to harvest salmon that pass near their community -- and it was successful at catching a significant number of sockeye while allowing the live release of chinook, coho and steelhead. The Sooke River remains as their most reliable local source for supplying their community with salmon. The river has returns of chum, coho and chinook and often the chum run is strong while the coho, and in particular, the chinook run is weak.

Members of the T'sou-ke First Nation have been fishing the Sooke River salmon run using a beach seine for many years so that they can select those species that can sustain harvest while releasing those that are weak. A beach seine encircles a number of salmon and, when operated effectively, provides an opportunity to release, with a minimal amount of handling, those fish not targeted for harvest. The key is to avoid drying-up the net too much while having harvesters skilled in salmon identification and handling to release bycatch quickly and with a minimum of harm.

The T'sou-ke First Nation setting a beach seine in the tidal portion of the Sooke River to target chums while releasing coho.
Photo courtesy of Gordon Curry, October 13, 2001

This past fall, the T'sou-ke First Nation and South Islands Aquatic Stewardship Society jointly celebrated the return of the salmon by demonstrating this responsible fishery. The day started with the beach seine fishery near the mouth of the Sooke River, with a catch of about 30 chum salmon and the release of about eight coho. The chum salmon were then skillfully filleted and prepared for the smokehouse. Even the salmon heads were split open for smoking, as this is considered a delicacy. Some of the fish were barbecued and provided a delicious meal along with traditional songs and drumming.

Preparing selectively harvested chum salmon for the smoke house at the T'sou-ke First Nation. Photo courtesy of Gordon Curry, October 13, 2001

The T'sou-ke First Nation have been avid promoters of selective and responsible fishing even before the international community was developing a code of conduct for responsible fishing and the eventual funding of DFO's Selective Fisheries Program. The decline of local stocks in the past fueled T'sou-ke's salmon managers (former commercial harvesters) to seek solutions by modifying harvesting techniques. Their efforts continue to inspire others in the move to wards more selective and responsible fisheries.

Implementation

GILL NET ACCESS TO FRASER RIVER CHUM

ADDRESSING COHO AND STEELHEAD CONCERNS

Some Fraser River commercial gill net harvesters fish the Skeena River and have seen first-hand how to create a viable solution to coho conservation concerns.

Over a period of time, a few innovative Skeena River harvesters have been experimenting with gear and fishing method changes to prove what works, and then implementing these measures with the assistance of the Fisheries and Oceans' resource managers. This year, the successful result was a catch of approximately 650,000 Skeena River sockeye after July 18 (previous coho conservation closure date) by introducing short set times and half-lengthed nets to the existing selective fishing methods.

Playing on the success of the Skeena River selective fishing measures, Fraser River gill net harvesters (Area E) proposed a plan to test a weedline in the Fraser River at a time when Thompson coho concerns were lifted but a conservation concern for steelhead still exists. Most Thompson River coho have migrated into the upper river by about October 15th, but steelhead concerns can continue until November 9th which is near the end of the chum run. The theory behind the Fraser River experiment was as follows: if the Area E harvesters could demonstrate that a weedline in concert with other selective fishing gear and methods has a minimal impact on steelhead, they might be able to re-enter the water to fish for chum earlier when the fish are more abundant.

The Area E experiment involved 16 vessels fishing in pairs with half length nets; the standard 200 fathom net was cut in half, providing each vessel with a 100 fathom length of net. One half of the net was unchanged (the control) while the other half had a ten-foot weedline (a section of a gill net designed to allow the unimpeded passage of fish near the surface). The gear that was chosen for this experiment focused on the belief that steelhead predominantly travel near the water surface, often in the top one metre. The use of a weedline, in other coastal areas, has been shown to significantly reduce the incidental catch of steelhead. The Fraser River experiment saw eight "fishing pairs" fishing four different areas of the Lower Fraser River commercial fishing area, from Mission downstream to Sandheads.

When the results of this experiment have been analyzed and reported, discussions can occur between Area E harvesters, DFO and provincial fishery managers regarding further study requirements and potential fishing strategies.

Gillnet vessel.
DFO archives.

Education

ANGLERS IN THE CLASSROOM

FROM ETHICS TO TRAINING MODULES

Promotion of selective fishing to anglers of all ages and experience levels is happening across B.C. Through a variety of methods, anglers and the general public are learning all about fishing.

For example, the Code of Conduct for sport fishing in B.C., developed by the Sport Fishing Advisory Board, is on its way to becoming famous. This spring, flyers featuring the Code of Conduct will be handed out at sport fishing tradeshows that Fisheries and Oceans Canada and the Sport Fishing Institute will attend. Local anglers, as well as fishing enthusiasts south of the border, will become familiar with the Code of Conduct and the angling ethics that it endorses. A logo and promotional items featuring the Code are in the process of being developed.

Advancing selective fishing techniques and responsible fishing practices is not only about training the avid angler. Efforts to educate future anglers or potential anglers will help to mold angling habits and increased respect for the resource. Through programs such as "Fish Smart", an education module being piloted on Vancouver Island, children are learning about responsible fishing, including the importance of fishing to communities and even fish-related career opportunities.

The Fraser Valley Salmon Society is also working on an educational tool: a Freshwater Salmon Species Identification package (that helps anglers differentiate salmon species and salmon from trout species). This ID package will accompany a training module that the Society is developing for angling clubs and other organizations. Keep an eye out for "All About Fishing", a hands-on freshwater recreational training and education fair that the Society is hosting from March 22 - 24, 2002 in Chilliwack. For more information, call Sandy Ritchie, Fraser Valley Salmon Society, at (604) 792-1646.

CODE OF CONDUCT

1. Handle all fish with care.

2. Limit your catch to ensure fish for the future.

3. Leave your fishing spot cleaner than you found it.

4. Respect the rights of property owners and other outdoor enthusiasts.

5. Use the proper tackle and methods for the species being targeted.

6. Promote the sport by teaching children and new participants how to fish.

7. Become informed about your fishery and participate in its management.

8. Report all illegal fishing activities to the proper authorities.

9. Respect the space of others, leave enough room for everyone to fish.

10. Learn the fishing and boating laws and abide by them.

Links of Interest

Researching selective fishing techniques and methods does not necessarily mean heading out to the water. "Fishing" the Internet from your own computer may prove to be useful and reveal some interesting projects that are being conducted in another part of the country or internationally.

Below are some selective fishing related websites that you may find intriguing:

Fisheries and Oceans Canada, Pacific Region, Selective Fishing website:
http://www-comm.pac.dfo-mpo.gc.ca/english/selective/default.htm

Fisheries and Oceans Canada's Canadian Responsible Fishing Summary:
http://www.dfo-mpo.gc.ca/communic/fish_man/resp98/index_e.htm

BC Aboriginal Fisheries Commission and Selective Fishing:
http://www.bcafc.org/docs/selective/index.html

Washington Selective Fishing - Commercial:
http://www.wa.gov/wdfw/fish/commercial/selective/

Marine Institute of Memorial University of Newfoundland - Fishing Technology Unit:
http://www.ifmt.nf.ca/~ftu/ftu.htm

Australia's Department of Fisheries - Commercial:
http://www.wa.gov.au/westfish/hab/broc/bycatch/

The Seabird Bycatch Project:
http://www.ifrfish.org/alb-bib1.htm

Gulf of Mexico Bycatch Monitoring Programs - Mississippi State University:
http://rsca.org/docs/ib324.htm