# Social Research for Sustainable Fisheries

# Small Boat Fishermen are 'Wired' and Ready:
## Plugging in and Turning on to Potentials and Possibilities of the Information Highway and the New Economy

February 2002

SRSF Fact Sheet 8

Recent SRSF research clearly describes the extent to which many small boat, coastal zone fishermen are familiar with and are using personal computers. Further, this research describes the readiness of most small boat fishermen to learn more about connecting computer-based applications and the information age 'new economy' with the fisheries and the future development of their fisheries livelihoods. These findings come from 289 small boat lobster license holders who participated in two studies focused on Northeastern Nova Scotia's Southern Gulf of St. Lawrence and Atlantic Coast fisheries.

Table 1 profiles attributes of those who participated in the studies. As evident in the table, the two populations surveyed share several key characteristics. In general, both populations are similar with respect to years of fishing experience (median of 25 years) and weeks fishing per year (medians of 16 and 18 weeks). Moreover, the vast majority of those interviewed describe themselves as fulltime marine resource harvesters. Additional information gathered in the surveys documents the family and community rootedness of the coastal fisheries, demonstrating that most fish harvesters live and work in the communities where they have grown up. Most have fishing family backgrounds that go back several generations; most began fishing and learned the requisite skills from within their natal or

**Table 1**: General Response Patterns Concerning Personal Computer Usage and

| Categories | Southern Gulf NS | North-Eastern Shore NS (LFAs 29, 31a, 31) |
|---|---|---|
| *Median Age* | 51 | 49 |
| *Median Formal Education* | 11 | 9 |
| *Median Years Fished* | 25 | 25 |
| *Median Weeks Fished(Previous Year)* | 18 | 16 |
| *% That Use a PC* | 43.3 | 44.7 |
| *% That Would Attend a Seminar* | 80.3 | 68.6 |

### *Computer Us-*

The results show that personal computer (PC) usage with fishermen increases in relation to the number of years of formal education they have (see Figure 1).  About 70% of those who have completed 12 years or more of formal education reported that they use a personal computer.  In addition, substantial minorities of those having completed 11 years of education or less also report using PCs ( about 40% of those with between 9 and 11 years and almost 25% of those with 8 or less years of formal education).  The pattern of high usage associated with higher levels of education is expected but there is also a rather surprising and important number of persons using PCs who do not report having completed high school.  This characteristic underscores the extent to which PC usage

Figure 1: Percent Using a Personal Computer by Education
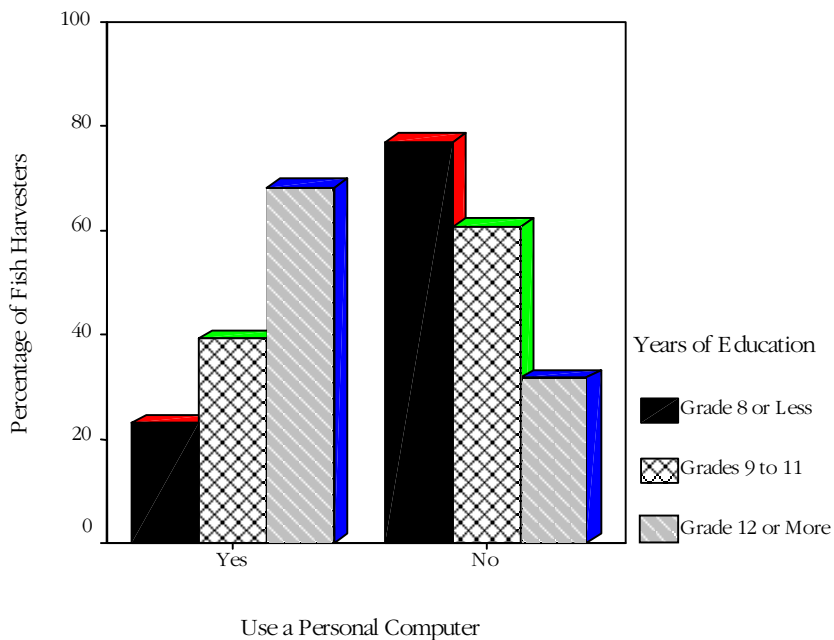


*The pattern of high usage associated with higher levels of education is expected but there is also a rather surprising and important number of persons using PCs who do not report having completed high school.*

As would be anticipated, younger fishermen are more likely than older fishermen to use PCs. Figure 2 illustrates that almost 60% of those who have fished 30 or fewer years report using a personal computer as opposed to about 20% for those  with 31 or more years fishing experience.

These findings put to rest the old idea that small boat fishing is essentially an occupation of 'last resort' employing unskilled people who have few options.  Computer usage is widespread, and particularly notable among the youngest group of fishing captains who have completed the most years of formal education.

This basic technical know-how can potentially enable many small boat fish harvesters to assist their fisheries livelihoods with further training in PCs.  The need for and potentials of PC-based information systems applications in small boat fisheries could be particularly valuable in terms of

Figure 2: Percent Using a Computer by Years Fished
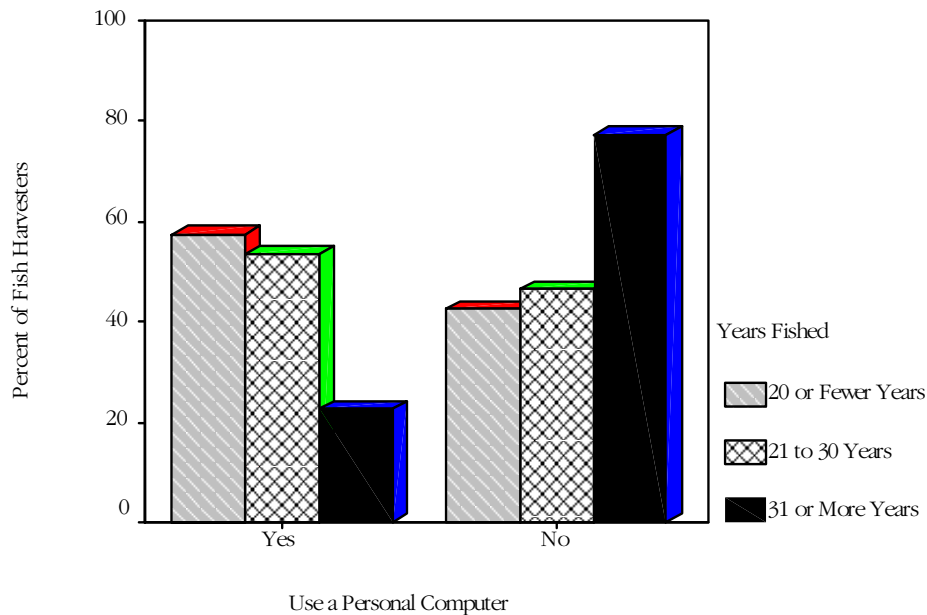


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## Potentials offered though PC-use

Given the dispersed residence pattern of small boat fish harvesters in most area's coastal communities, PC-based information systems would enable much more systematic and thorough dissemination of fisheries-related information to fishermen. Additionally, this approach offers potentials for assisting representative organisations to overcome logistical and cost problems through building electronic and web-site connections with their fish harvester memberships. The Community Access Program (CAP) sites within most coastal communities might be used creatively in this regard, especially for those not currently in possession of PCs. CAP sites may also be used for running fisheries-related information systems and applications seminars.

Personal computers have the potential to increase the connection between fishermen and organisation membership through means such as video and audio conferencing thereby assuring that organisations have broader-based and more regular membership participation in meetings and discussions of important issues. PC-based applications would also further enable fish harvesters to access and participate in dialogue respecting issues of concern with other fish harvesters as well as with their association representatives and government-based management and science agencies. In both regions, however, only about one in every two of this group are familiar with the internet and about one in three use e-mail.

PC-based information systems have applications for fish harvesters in areas such as searches for and acquisition of supplies and equipment. Such an application may provide savings through increased price competition and reduced service charges. This feature may become more important as equipment and gear supplies become increasingly consolidated and geographically removed from fish harvesters' communities. PC-based information systems and capabilities may also be employed

## *Training in Personal Computers*

Figure 3 demonstrates that there is considerable interest among small boat fish harvesters in accessing and participating in fisheries-related computer training. This interest is widespread and expressed by the vast majority, including 85% of fishers with 20 years and less experience, 75% of fishermen with 21 to 30 years experience and 60% of fishermen with 31 years and more experience.

Figure 3: Would Attend PC Training by Years Fishing
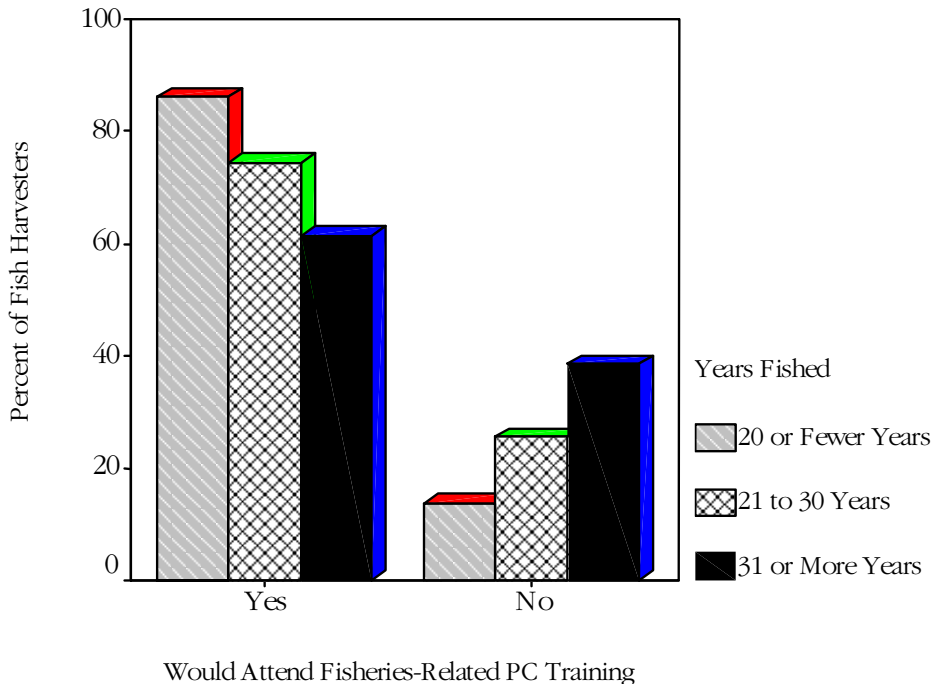


Would Attend Fisheries-Related PC Training

*The research has shown that busy fishermen are just as interested as the ones who only fish for a few weeks.*

In addition, the research has shown that busy fishermen are just as interested as the ones who only fish for a few weeks.  Figure 4 illustrates that at least 70% of fishermen, in all categories of weeks fished, from 12 weeks or less to 22 weeks or more, would be interested in PC training.  In fact, the busiest fishermen, who are on the water for 22 weeks or more responded with the most interest in PC training with 77% saying they would attend training.  This disputes statements such as "fishermen are only taking computer courses because they have nothing else to do".  Instead the results support a keen ability for time management among fishermen, showing that they are willing to make the time or already have the time and recognize the benefits of training in PC usage.

The level of interest shown here clearly acknowledges the view among fish harvesters that the future of small boat livelihoods will involve the expanded use of computer technologies. These data also demonstrate that a substantial proportion of small boat fishing captains, irrespective of their age and formal education,  recognise a livelihood-linked need and readiness for building their computer literacy.

In addition,  no fishing crew were included in either of the studies.  Arguably, crew are the recruitment source for future captains and license holders.  It is important that their PC usage and literacy be documented and understood.  Certainly, serious-minded initiatives to build 'new economy'

Figure 4: Would Attend PC Training by Weeks Fished
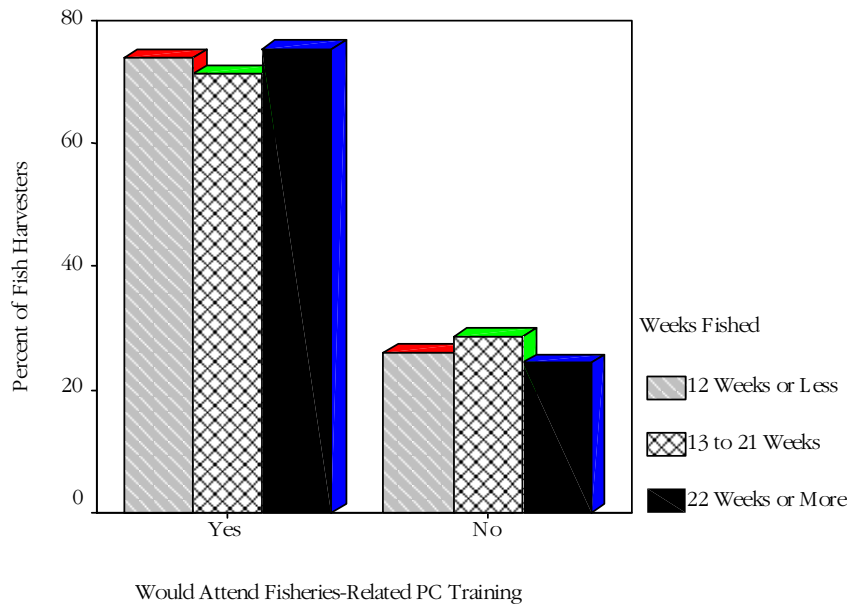


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*No fishing crew were included in either of the studies. Arguably, crew are the recruitment source for future captains and license holders. It is important that their PC usage and literacy be documented and understood. Certainly, serious-minded initiatives to build 'new economy' information technology and systems capacity within coastal fisheries must develop the ways*

These data do not document the extent to which current usage of PCs and information systems is actually associated with fisheries livelihoods. The reported levels of unfamiliarity with internet and, particularly, e-mail usage suggests that there is much that needs to be done, even among those most familiar with information technologies and systems.

## *Implications*

PC-based information systems and applications have the potential to provide small boat fish harvesters with continued and enhanced access to services, goods, decision-making processes, policy and science information, and marketing leverage in ways that will be key to maintaining the economic sustainability of small boat livelihoods and social and economic vitality in fisheries-dependent coastal communities. Some specific initiatives might involve the following:

▪ CAP sites within communities could play an important and creative role in bringing the previously discussed ideas into reality;

▪ Geographical barriers between fishermen and suppliers, associations and representatives, advisory boards, and DFO can be overcome through the use of PCs as the main means of communication – through internet and email, video and audio conferencing;

▪ PC usage and information systems training could focus on themes such as: financial and enterprise management, markets, fisheries supply and services;

▪ Development of internet and information systems capacity for the purpose of creating virtual marine resource markets and auctions.

*About SRSF . . .*

## Social Research for Sustainable Fisheries

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**S**ocial Research for Sustainable Fisheries (SRSF) is a partnership linking university researchers and capacity with Mi'kmaq and inshore commercial fisheries community organizations. Although administered at St. Francis Xavier University, SRSF engages and represents a working collaboration between Guysborough County Inshore Fishermen's Association, the Gulf Nova Scotia Bonafide Fishermen's Association, the Mi'kmaq Fish and Wildlife Commission, Afton Band and St.FX as well as other university-based social researchers. Additional fisheries and community organizations are linked with SRSF through relations with these core partners.

**S**RSF is funded by the Social Sciences and Humanities Research Council of Canada (SSHRCC) through its Community-University Research Alliance (CURA) programme. The basic purposes of SRSF are: to develop fisheries-focused social research linkages between university researchers and community organizations, to build social research capacity, and to facilitate specific fisheries social research activities that will examine the concerns of the partnered community organizations. Social research capacity, experience and linkages are developed through research-focused workshops and specific research projects.

**F**urther information about SRSF is available either through the project's web site (www.stfx.ca/people/adavis/srsf) or by contacting any of the SRSF project staff, either at St. FX or the offices of the partner ogranizations.