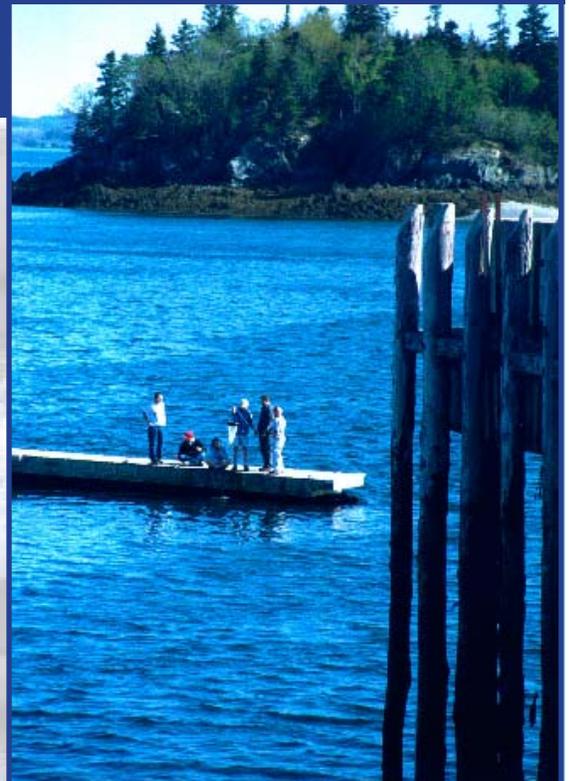




Voices from the Fisheries Handbook

Preserving Local Fisheries
Knowledge, Linking Generations, and
Improving Environmental Literacy

Julie Bartsch
Susan Abbott-Jamieson
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NOAA FISHERIES SERVICE
Science, Service, Stewardship

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | National Marine Fisheries Service



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Voices from the Fisheries Handbook

Preserving Local Fisheries Knowledge, Linking Generations, and Improving Environmental Literacy

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PREFACE & ACKNOWLEDGEMENTS



N OAA’s National Marine Fisheries Services Local Fisheries Knowledge (LFK) Project, piloted in Maine, has been a learning journey for everyone involved. Designing an educational program where knowledge and participation intersect to engage young people as vital community members, addressing issues that impact the future vitality and sustainability of their small fishing communities, is no small task! Some of the outcomes that have sustained us through the many challenges of implementing the LFK project include:

- **Receptivity from the community.** Creating partnerships and common agendas between the diverse stakeholders—regulatory agencies, schools, students, and local community members—while challenging, has been one of the greatest strengths of this project. These partnerships have resulted in outcomes we could not have predicted at the project’s inception.
- **Level of commitment by students** (especially students who have difficulty learning in traditional classroom situations) as they came to realize the value of their work to their community and national institutions like NOAA’s National Marine Fisheries Service.
- **Learning that transpired for both students and adults.** Teachers increased their knowledge of the relationships between their communities and the marine environment. They also increased their understanding of the communities their students live in and developed new relationships with community partners including NOAA; adults grew to appreciate the skill set young people bring to preservation efforts; and students expanded their knowledge, skills, aspirations, and appreciation for their place.

This handbook is our attempt to share strategies, lessons learned, and sample curricula for use in a variety of formal and informal educational settings interested in attempting similar worthwhile endeavors of documenting and preserving local fisheries knowledge.

Acknowledgments

The original Local Fisheries Knowledge Pilot Project, from which this handbook has grown, required considerable effort by many dedicated people. The first round of thanks belongs to two members of the LFK planning and implementation team. The fully developed project emerged over time with contributions from many people, but Jennifer Isé and Jim Roberts deserve special mention. Jennifer Isé, Assistant Project Manager for the Local Fisheries Knowledge Pilot Project, worked full time on the project during its inception while she was on rotation in NMFS Headquarters Office of Science and Technology, and she continued to make contributions later as a NMFS employee. She was instrumental in overseeing development of the original LFK Database and other aspects of the project. Jim Roberts was Local Project Coordinator for the pilot project, working with the Rural School and Community Trust, while also serving as Curriculum Developer for the Washington County Consortium, in Machias, Maine. He served as the onsite resource person for Jonesport-Beals High School, and was a key person in organizing teacher workshops and project evaluations.

The second round of special thanks go to the administrators and teaching staffs of the two LFK Pilot Project high schools. The project team leads at Ellsworth High School, Ellsworth, Maine—Candice MacBeth and Joyce Whitmore—and at Jonesport-Beals High School, Jonesport, Maine—Linda Church and Pam Smith—cannot be thanked enough for their willingness to set sail upon the untested waters of the original LFK Pilot Project, and to believe in its potential. They all devoted many hours in and out of their classrooms to make sure the project was a success in their respective schools and in their communities.

Finally, we want to thank Alison Yaunches for her creative work in preparing the final manuscript for publication.

ABBREVIATIONS



DOC	Department of Commerce
LFK	Local Fisheries Knowledge
JHS	Jonesport Historical Society
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
Rural Trust	Rural School and Community Trust
VFF	Voices from the Fisheries
Voices	Voices from the Fisheries

INTRODUCTION



Why is it important to document and preserve marine related oral history?

From this country's earliest times, there has been a dependency on marine resources to sustain ourselves and make a living. That way of life is changing quickly. Oceans and coastal areas are threatened—domestically and around the world—resulting in uncertainty for the future of their ecosystems and the people and communities that depend upon them.

Traditional fishing economies are being transformed or replaced around the country. In some places, related social problems like out-migration of young adults, unemployment, and declining populations are the consequence. In other coastal areas, populations are increasing. New residents from urban places are seeking vacation and retirement homes near the coast. Their newer, more expensive housing can increase property values making it difficult for some local people to continue living in an area, while others find new livelihoods from a more diversified economy. All of these economic and social forces contribute to increased environmental pressures, and cultural and social transformation.

A rich body of knowledge about community fishing history and culture is disappearing. Capturing the stories and experiences of local fishermen and women is especially important in coastal states like Maine, which historically have depended on the marine or Great Lakes environment for their economic and cultural base. As coastal demographics change, it is important that young people growing up in these areas have access to the rich history of their state's and their nation's coastal culture; it is equally important for newcomers to the coast.

This information is also useful to social scientists interested in coastal societies and their economies, whose research is drawn on by marine fisheries managers when anticipating the impacts of regulations on local fishing communities. Further, fishermen's detailed knowledge about the

local marine environment and past distribution and characteristics of local marine fish stocks is useful to fisheries biologists who try to reconstruct what marine fish stocks were like before scientists began collecting this information. Now that NOAA Fisheries Service management has adopted an ecosystems-based approach, it is important that we better understand complex relationships among diverse species in local and regional environments. Properly focused, oral histories collected from experienced fishermen in specified localities can contribute to this effort.

One strategy for documenting and preserving the cultural, environmental, and historical knowledge of fishing communities is engaging schools and students. Through interviews with community residents who have worked in various aspects of marine fisheries and other individuals with long experience in the marine environment, students are able to explore the connections between fisheries, the marine environment, their community, and their own lives.

For many students, integrating this kind of learning experience into the school curriculum can be the catalyst for engagement as they see the connections between abstract academic concepts and their own experiences.

A successful project embedded in a school not only preserves local knowledge and local voices for a community, but it also makes place-based knowledge accessible to a larger national and international community. Through participating in well-designed, well-executed projects, all ages improve their awareness and knowledge of the manner by which their marine environment influences human behavior and beliefs. Participants also gain increased appreciation of how such patterned human behavior and beliefs impact coastal zones and the ocean itself.

BACKGROUND



Overview of the Local Fisheries Knowledge Pilot Project

The idea for a Local Fisheries Knowledge (LFK) Pilot Project evolved from a series of conversations in 2002 at NOAA's National Marine Fisheries Service (NMFS) heard by Senior Social Scientist, Susan Abbott-Jamieson, as she was trying to make sense of her new job. The first conversation concerned the need to improve relationships with fishing communities affected by agency regulatory actions. Because the agency regulates marine fisheries resources, administers the Marine Mammal Protection Act, and oversees the fates of sea turtles, fish, and some marine plants protected under the Endangered Species Act, its actions can profoundly affect fishermen's ability to make a living and thus the welfare of fishermen's families, fishing communities, and ports involved in fishing. Regulatory power over fisheries can generate antagonism toward both federal and state regulators from those relying on fisheries for their livelihood.

Another conversation concerned the anticipated loss of possibly fifty percent of the agency's senior work force over the next decade through retirement, a problem common to all federal agencies. Aware of the problem, NOAA is looking for ways to introduce youth to the wide array of career possibilities available throughout the agency, including marine-related occupations.

The third conversation concerned many commercial fishermen's belief that fisheries scientists and managers disdain their knowledge about the fish and other marine resources they use, and the marine environment they inhabit. While some scientists and managers may disdain local fisheries knowledge, most just have difficulty visualizing how it can be systematically collected and transformed into a useable format for science and management.

A fourth conversation involved NOAA's expanding education role to promote an environmentally literate public. In addition to its scientific mandate, NOAA plays a leading role in the conservation, management, and restoration of ocean, coastal, and Great Lakes resources. The stewardship of these resources for current and future generations is critical to the long-term sustainability of our society and the planet. Monitoring the health of these

ecosystems and building an understanding of the relationships between the ocean and other Earth systems is a core mission of the organization. Over the last 100 years, human actions have greatly altered these natural systems, seriously threatening the resources under NOAA's jurisdiction. All of NOAA's scientists—including atmospheric, oceanic, biological, and social—recognize that the pressure on the environment will increase with the globalization of world markets, population shifts, and the race for economic growth forecasted for the 21st century. NOAA cannot manage these issues. Partnering with the public to share stewardship responsibilities is a necessity; environmental literacy is one step in that process.

The possibility for a project existed in the intersection of these four conversations. The new project would combine general fishing community outreach and efforts to introduce young people to marine-related careers with the creation of a school-based, marine focused oral history project supported by an agency research tool that could archive and preserve local fisheries knowledge. The LFK Pilot Project began to take form (Isé and Abbott-Jamieson, 2005; Abbott-Jamieson, 2007).

Early Project Development

Once support was given to develop a pilot project that would combine NOAA's interest in community outreach with exposing youth to marine-related careers, NOAA located a partner with the requisite expertise and contacts with public schools in rural, coastal areas. The Rural School and Community Trust (Rural Trust), a national nonprofit organization addressing the crucial relationship between good schools and thriving communities, involves young people in learning linked to important issues in their communities via place-based education.

Place-based education immerses students in local heritage, culture, environment, and experiences as a foundation for their academic study. This orientation fit the LFK Pilot Project goals. NOAA and the Rural Trust chose Maine as the project site, because the Rural Trust already had well-developed contacts there through other initiatives. Additionally, the agency felt New England was a good area for outreach. A long-standing, contentious regulatory environment throughout the region meant that many resident fishermen were antagonistic toward the agency.

The Rural Trust was able to guide the design of the two-year LFK Pilot Project so that it contributed to the participating schools' ability to meet relevant state educational standards and academic goals. Once the Rural

We are very excited about having the opportunity to document and study our local history. It is important for young people to know where they come from as they are striving to figure out where they are going.

—Colleen Haskell, recently appointed assistant superintendent of Jonesport-Beals High School.



Trust, in consultation with NMFS project staff, selected the two participating schools, they established a Resource Committee with representatives from a variety of marine related fields and held a summer Curriculum Development Workshop for participating teachers and community partners (see Appendix A: Local Fisheries Knowledge Pilot Project Committee 2003-2005).

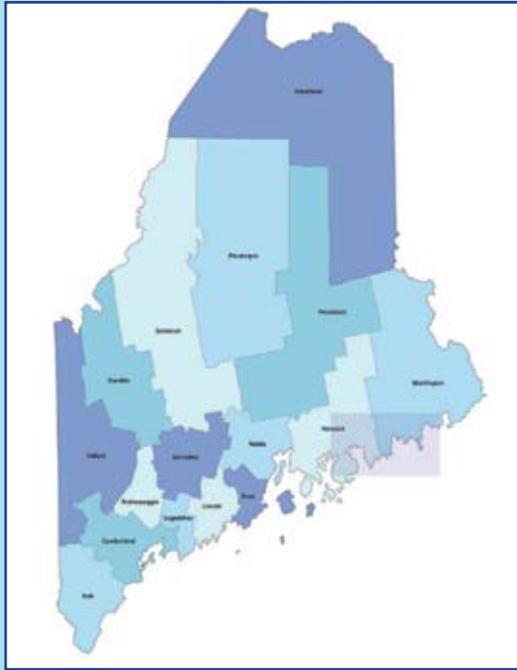
The teachers had to be convinced that the project would fit into their curriculum and enhance student learning goals. They had to make the LFK Pilot Project their own by adapting the general concept to their individual schools. This process resulted in local differences in the way the two pilot schools developed the project. Local control was essential to whatever success each school had with the project. The emphasis in Maine was the project's use of oral history, understanding of marine issues, and its development of a publicly accessible database for archiving and systematically searching LFK interviews—features common to the LFK Pilot Project in both schools. There are a number of other dimensions that could be developed in such a project (see Getting Started section, page 13).

NOAA wants to replicate the successful pilot project in coastal communities across the country, with the goal of inspiring a new generation of fisheries scientists, managers, and marine affairs professionals.

Participating Schools and Communities

The two schools and communities selected to participate in the LFK Pilot Project were Ellsworth (Hancock County) and Jonesport-Beals (Washington County) Maine. While both communities have rich fishing histories, they bring different perspectives because of size, location, and current economic realities.

Jonesport-Beals, with a combined towns' population slightly over 2,000, is a fishing port where fishing is still the prevailing industry. Unlike most fishing communities, times until recently have been good for Jonesport and nearby



The purple box highlights the two Maine counties involved in the LFK Pilot Project.

Beals Island because of their specialization in lobsters. In fact, approximately one third of the students at Jonesport-Beals High School have commercial fishing licenses and some had already purchased their own boats at the time of the LFK Pilot Project.¹ Many students labor long hours on the water with family members from whom they have learned their skills, and they consider lobstering a viable career possibility after high school.

Ellsworth, population 6,500, is a bustling commercial town providing retail services to thousands of tourists who stream in and out of Acadia National Park. It is located on the banks of the Union River where alewife (*Alosa pseudoharengus*) still migrate. While shipbuilding and fishing is part of its economic history, today most fish-related jobs evolve around processing, marketing, and consumption of fish. Ellsworth has worm

diggers and other commercial providers of bait. It has banks that provide credit to those purchasing new boats and equipment for fisheries. It also has fresh seafood restaurants, and an important seafood distribution business. The high school draws its 600 students from as many as 18 outlying communities.

The LFK Pilot Project began in different departments within each of the schools. In Jonesport-Beals High School, the project involved ten students enrolled in business and entrepreneurship courses. Because of its small size, there was flexibility in scheduling and connections across classrooms. In Ellsworth High School, the program was organized by a core group of grade ten teachers who called themselves “The Cod Squad.” The intent was to integrate the LFK Pilot Project across the disciplines so that all 175 members of the sophomore class could participate.

Goals

A number of goals and desired outcomes were articulated by LFK Pilot Project partners:

1. ***Provide rigorous and relevant learning opportunities that connect***

¹You can read about some of these students on the LFK website <http://www.st.nmfs.gov/lfkproject/> (2 March 2009)

students to issues in their coastal communities and equip them with the skills necessary for work and continued education.

Oral history methods used in schools to connect students to their community's heritage provide an excellent venue for the acquisition of 21st century skills that are necessary for work and community life.

2. ***Strengthen connections between students, schools, community, and NOAA Fisheries.***

The preservation of local knowledge and culture brings the generations together and stimulates an appreciation and understanding of each other. Student interviews and the VFF database became important steps in bridging the gulf between fishermen and marine scientists and managers.

3. ***Increase students' awareness and understanding of the marine environment by exploring their socio-cultural, economic, and ecological connections to it.***

Students gained knowledge of regional ties between social and economic demands and environmental constraints through their interviews and related research.

4. ***Promote learning about careers in marine science, management, and policy.***

Students who previously saw no connection between their lives and the work of scientists and fisheries managers begin to imagine alternative futures for themselves as fisheries scientists, managers, and entrepreneurs through project activities.

5. ***Document and preserve local fisheries knowledge.***

There is an urgent need in fishing communities to capture the traditional knowledge about fish and habitat from fishermen and women. If properly designed and executed, this knowledge can provide an invaluable historic and current database of local knowledge that will be useful to science as well as local community history.



Members of the JHS and local residents gather to hear Jonesport/Beals students talk about their LFK Project in 2004.

Photo: Linda Church

Students increased their motivation to learn and their communities were energized through the exchange.

—Michel Kimball, Assistant Professor of Anthropology at UMaine Machias

Examples of Project Outcomes



JHS Board members, Bill Plaskon (left) and Don Woodard (right), in the new Jonesport Heritage Center, Jonesport, ME, partially funded by a NOAA Preserve America Initiative Grant.

Goal 1: Student learning and acquisition of new skills

Literacy skills, such as semantic feature analysis, coding of interview information, listening skills, and new vocabulary were reinforced by many of the LFK Pilot Project tasks. Students also expanded their use and understanding of various technology tools and software through recording, transcribing, scanning documents, and editing digital and audio tape recordings as they processed their interviews for the database, and created various presentations for community groups.

Goal 2: New connections between students, schools, and community

Cumulatively, participating schools created partnerships with over 30 local organizations and community entities and recorded oral interviews from approximately 30 fishermen and women. Over 125 interviewees remained on waiting lists at the two schools. Early evaluation data showed gains in student engagement, attendance, academic performance, awareness of marine heritage and community involvement, innovative instructional practices, and improved community vitality.

Cross-generational and school/community ties have been strengthened as a result of the LFK Pilot Project, while the documentation of the area's marine heritage through oral history preservation activities has been expanded beyond the high school student's project activities.

Within weeks of the project's start, a serendipitous relationship began developing between the Jonesport Historical Society (JHS) and the LFK Pilot Project at Jonesport-Beals High School. The JHS was also interested in collecting oral histories of life in the local area, including the life histories of those whose livelihoods were tied in some way to the local marine

This project has influenced my future in many ways such as what I would like to do for a career. I did not know what I wanted to do after high school, but once we started working on the NOAA project, I found a new passion for communications. Following several interviews, I have decided to apply to the New England School of Broadcasting.

—Brittany Sawyer, Jonesport-Beals Senior

The impact of the project has been especially profound for students like Brittany Sawyer, who joined the project as a shy, unsure young woman who reluctantly agreed to be the team member that asked the interview questions. After the first couple of interviews, it was clear that Brittany had a real talent for putting the interviewees at ease, adapting interview questions as the interview progressed, and summarizing the salient points from the hours of conversation. She became known as the “Diane Sawyer” of the NOAA project and her confidence began to soar. So did her aspirations, as everyone who witnessed her skills encouraged her to explore further training in journalism and broadcasting.

By early spring she began to consider going to college immediately after graduation rather than getting a job in a local establishment to finance a college education. Brittany’s aspirations for her life have changed dramatically through this project. In May, Brittany received her acceptance letter from the New England School of Broadcasting. Brittany’s aspirations for her life have changed dramatically through this project.

—Pam Smith, teacher, Jonesport-Beals

environment. Jonesport has a long history with the fishing industry stretching back well into the 19th century that includes harvesting, processing, and boat building among other activities.

The JHS began to cooperate with the high school students. The students taught the JHS members about new technological options for recording and processing oral history materials, and the JHS members helped the students and their teachers locate suitable interviewees in the Jonesport and Beals Island communities. The students began attending JHS meetings, and some have made presentations about their oral history work. Over the course of two years, the JHS membership grew from less than five members to over 100, in part because of the interest created by the students’ work. At the end of the second year, the NMFS LFK Pilot Project staff was able to secure a NOAA Preserve America Initiative grant² to help the JHS purchase equipment for use in collecting and presenting local history materials for a local heritage center that has been developed in Jonesport (America Competes Act, 2009).

Goal 3: Awareness and understanding of the marine environment

The interviews provided students with a historical perspective on the lean and fat years of lobstering, and on how their communities have prospered because of sustainability measures, such as restrictions on legal size, v-notching fertile females, and trap limits. Jonesport-Beals students joined a community resource panel talking about coastal access issues and

²See <http://www.preserveamerica.noaa.gov/welcome.html> (accessed 9 June 2008) for a description of the Preserve America Initiative and the NOAA Preserve America Initiative effort. A full description of the Jonesport, ME JHS grant can be found at <http://www.preserveamerica.noaa.gov/grantrecip05.html> (accessed 9 June 2008).

presented their community-based research work in a college class. Ellsworth biology students developed a fisheries management plan for a specific Gulf of Maine species.

Goal 4: Expanded understanding about careers in marine science, management, and policy

One of the positive outcomes of the LFK Pilot Project has been seeing how students have expanded their skills and aspirations as they designed and conducted interviews; utilized sophisticated software to transcribe, analyze, and organize the data; and presented the project highlights to local and national organizations. A pre-post questionnaire (see Appendix B - LFK Project Student Questionnaire) showed increased interest in marine biology careers, journalism, and marine resource management issues. In the second year of the project, Ellsworth High School featured marine career presentations.

Goal 5: Document and preserve local fisheries knowledge

Over 30 oral interviews were collected in Ellsworth and Jonesport-Beals over two years. These interviews were made available to the public on the project's LFK Database, available at <http://www.st.nmfs.noaa.gov/lfkproject/> (accessed 23 February 2009). Jonesport-Beals students continued interviewing local fishermen after the LFK Pilot Project ended.

Place-Based Learning Pedagogy

Place-based learning was a natural fit for the LFK Pilot Project, since it involves using the local community—its history, environment, culture, and economy—as the integrating context for learning. Community members serve as resources and partners to students as they collectively preserve local heritage.

The benefits of the place-based learning model include connecting students in local schools with fishermen and women in their communities in a way that will value and affirm their traditional knowledge about fishing, fish, and habitat. Based on the experience of other programs using this approach, students who previously saw no connection between their lives and the work of scientists and fisheries managers can begin to imagine alternative futures for themselves as fisheries scientists, managers, and entrepreneurs.

Students develop critical thinking skills and see the relevance of what they are learning as they collect the rich cultural histories of their place.

NOAA embraces place-based education as a strategic methodology for promoting environmental literacy by enhancing the connections between human actions, scientific information, policy, and Earth's systems. Framing these connections in a local context within the social framework of one's community and the associated resources makes lessons more powerful and long lasting (NOAA Education Council, 2008).

Organizations like the Rural Trust, Foxfire, the Place-based Education Evaluation Collaborative and others have researched and documented the effectiveness of place-based learning initiatives. The place-based learning model literature describes improved academic performance, engagement, and retention in school, followed by increased rates of college attendance as a common effect. An extensive program evaluation conducted by researchers at the Harvard Graduate School of Education for the Rural Trust provides case studies of schools and communities throughout rural America that have been transformed by grounding students' education in the local community and intentionally moving away from didactic approaches to schooling (Harvard Graduate School of Education, 1999).

Continuing Evolution of the LFK Pilot Project

The LFK Pilot Project ended with the 2005 academic year. Jonesport-Beals High School continued the project during the following academic year on their own initiative, while a new schedule at Ellsworth High School and the retirement of a key staff member made it difficult for teachers to continue.

The LFK Database developed to house copies of the students' interview transcriptions proved troublesome during the pilot project. It was distinctly "user non-friendly," so teachers and students alike struggled to master its processes for uploading their transcribed interviews to make them available to the public.

Another bottleneck occurred because the original LFK Database could only accept PDF files of interview transcriptions. Transcribing interviews is a time-consuming process, requiring as much as three or four hours of transcribing time for every hour of recording time. Teachers simply could not devote sufficient classroom time to complete transcriptions of all the interviews they actually recorded. Both problems had to be addressed before student participation in future LFK projects could be promoted.

NOAA Fisheries staff committed themselves to building an entirely new, truly user-friendly database that could accept both MP3 digital audio files and PDF transcriptions of audio files. Allowing MP3 audio files to be uploaded to the new database eliminated any need for interview transcription.

The new database, now called the Voices from the Fisheries (VFF) Database, can be accessed at <http://www.voices.nmfs.noaa.gov>. All the interviews from the original LFK Pilot Project are now available on the VFF Database, as well as many oral history interviews collected as part of other projects.

Transformed into the Voices from the Fisheries Project and VFF Database, NMFS staff hope that Voices will become a “one stop shop” for those interested in the human connection with our marine and aquatic environments, and our living marine resources. The VFF Database is intended to be a central repository for consolidating, archiving, and disseminating oral history interviews related to commercial, recreational, and subsistence fishing in the United States and its territories.

Many marine and fisheries-related oral histories already exist, scattered in dozens of collections throughout the U.S. Eventually copies of part of these historical collections will become available on the VFF Database, joining a growing inventory of marine oral history interviews collected by students, family members, professional researchers, and others interested in preserving all of the voices from the fisheries. The VFF Database is poised to become a powerful resource available to the public to inform, educate, and provide primary information for all who are interested in the local, human experience with the surrounding marine environment.

A note on the use of LKF and VFF

Throughout the remaining sections of the handbook, we refer to the original project as the LFK project, while we use VFF or Voices from the Fisheries project to refer to any oral history project that interviews people who have had a connection with some aspect of marine or Great Lakes fishing or other activities related to these environments.

GETTING STARTED



The ultimate success of an LFK project depends on good planning and a committed group of stakeholders. During the planning phase, decisions need to be made regarding: **desired outcomes** resulting from program’s activities, **key action steps, appropriate measurement tools** for desired outcomes, **resources available** to the project; and the **information and data to be gathered** before, during, and after for the evaluation of the program.

Multiple Entry Points

The initial idea for fisheries projects can come from various sources such as: schools, marine-related organizations and agencies, students, or local community members. In the case of the LFK Pilot Project, the idea came from NOAA’s National Marine Fisheries Service and the curriculum was developed in two Maine secondary schools. A project might also be proposed and developed by a marine-based community organization, such as the Fisheries Education Project at the Moss Landing Marine Laboratories in Monterey, California. In this project, the curriculum was developed by education staff at Moss Landing for the public schools.

Regardless of where a project originates, it is best when there is collaboration between schools, marine-based organizations, and local individuals who possess certain fisheries/science knowledge or skill sets of value to the project.

Create a Project Advisory Committee

Establish an advisory team with representation from the schools, cultural and marine-based community organizations, fishermen, fisheries management personnel, and others who will serve as resources to the program.

The LFK Pilot Project Resource Committee was developed with representatives from a variety of fields, including higher education, NOAA Fisheries personnel, educators, fishermen, and others with expertise in the fields of anthropology, traditional ecological knowledge, fisheries science, and fisheries management. The Resource Committee met in April 2003 to review the LFK Pilot Project’s design and identify possible resources and services they might individually offer to support the project. Various committee members offered support throughout the pilot project, including participation in the evaluation of project outcomes.

Planning is Essential

At Ellsworth High School in Maine, the project was organized by an interdisciplinary core group of tenth grade teachers, including the school librarian and a member of the technology department. Over the summer, teachers spent planning days organizing a curriculum that would allow every sophomore the chance to participate through their English, history, and biology courses. The core group of teachers came up with a series of questions to guide their planning:

- What concrete action steps will lead to implementation?
- Who of the Cod Squad will lead and/or coordinate?
- When will action steps occur and when will they be completed?
- What resources do we need?
- How will project activities be connected to the existing curriculum?

An extensive schedule was set up for the year, allowing the project to take place both in classes and students’ advisory period. Teachers agreed to meet on a weekly basis to discuss and assess project progress.

At Maine’s Jonesport-Beals High School, students enrolled in a business-technology and an entrepreneurship course titled “We Mean Business” participated in this project. Because of the small number of students involved, there was flexibility in scheduling and building connections across classrooms, and less elaborate planning was required.

Professional Development and Technical Assistance

Administrative support and adequate time are essential to attempt a VFF Project. Providing professional development for educators and community development practitioners increases local capacity to

engage in and sustain this kind of work. The Maine LFK Pilot Project held summer institutes for planning and evaluation, employed a part-time school coach to work with each community team, and worked with staff from NOAA and the Rural Trust, who provided regular support with various components of the program.

Prior to launching the project, the LFK Pilot Project held a Curriculum Institute for teachers from Ellsworth and Jonesport-Beals, NOAA social scientists, Rural Trust staff, and various members of the Resource Committee. Participants spent time identifying connections between the project, the existing curriculum, Maine Learning Results, and issues facing both communities. Participants discussed timelines, curriculum materials, and strategies for engaging students in the project. Each community came up with an overarching question to guide the project. Each school identified teacher leaders for the project as well.



Julie Bartch leading a discussion introducing the LFK Pilot Project to teachers in Maine, 2003

Technical support is also important for the project. Jim Roberts, former curriculum developer for Maine's Washington County Consortium and a member of the Rural Trust's Rural Faculty, coordinated many of the pilot year activities in the two schools. In his role, Jim developed a broad-based network of organizations and resources for the project, organized speaking engagements for students, presented workshops for teachers, assisted teachers with curriculum lessons and linkages to the Washington County Adolescent Literacy Project, advised on technology issues, promoted project activities in the local media, and assisted with documentation and assessment activities. Jim met with participating teachers on a regular basis.

Susan Abbott-Jamieson and other NOAA personnel made several visits to Maine during the project to assist with various aspects, including the interviewing process, transcribing, creating and training teachers and their students on how to use the web-based LFK database. Susan was instrumental in promoting the project outcomes within NOAA and among national audiences.

Jennifer Isé of NOAA worked with information technology staff on the development of the database and the project website. She provided training to schools on the database and made presentations at national conferences on the LFK Pilot Project.

Julie Bartsch, Northeast Regional Steward for the Rural Trust, provided project

coordination and connections with other important education and marine initiatives in the state, organized trainings, coordinated documentation and assessment activities, provided fiscal oversight, served as coach to Ellsworth, and promoted the program beyond Maine.

Engaging Students

Student ownership is key to the success of an LFK Project. Much of the conversation in the first few professional development activities for the Resource Committee and the teaching staff was around how to build ownership and enthusiasm for the project among students. To realize greater student engagement, the group explicitly included students in as many phases of the project as possible—design, planning, implementation, and evaluation.

Organizing work around questions and problems is an effective way to engage students. Begin with questions like:

- What does fishing and fishing history mean to you?
- Why is it important to our community?
- How is the Gulf of Mexico or (name adjacent marine or Great Lakes sub-area near your community) important to our community? To you personally?

Student ownership of the project and encouraging a collaborative environment increases the likelihood of success. By including students in the planning and implementation of project-based learning, you gain student perspective and an opportunity to teach students valuable skills. They learn how to advocate for their ideas, plan, troubleshoot, and work in a group.

—GENERATION YES Blog,
February 2008

Another effective student engagement tool is to have students identify someone in their family or friends to interview. (See “Creating a Hook” in the Curriculum Integration section of the handbook for more ideas, page 35).

BUILDING COMMUNITY PARTNERSHIPS



Community partnerships serve a multiplicity of functions to community-based projects. They ground place-based projects in genuine community needs, provide needed resources including role models for students and offer insights into various marine-based careers. Community partnerships can be instrumental in sustaining projects beyond the tenure of students and walls of the classroom. In Maine, documentation of the area’s marine heritage through oral history preservation activities has expanded far beyond the high school student’s LFK activities.

Cross-generational and school-community relationships are often strengthened through partnerships with community members and community-based organizations. Both schools involved with the LFK Pilot Project saw an increase in community support. Local adults who had never before set foot in the local high school regularly attended public presentations on local cultural and maritime heritage. Community organizations, such as local historical societies, now view young people as important resources and positive contributors to the health and sustainability of their organizations.

Identify Potential Community Partners

- 1. Contact your historical society.** The serendipitous relationship that developed between Jonesport Historical Society and the LFK Pilot Project at Jonesport/Beals High School described earlier illustrates how partnering with your local historical society can benefit both a VFF project and the historical society. As it happened, the JHS wanted to collect oral histories in their community. Both the school

When students work on issues that are of real importance to the community and community members get involved as resources, everyone benefits.

—Julie Bartsch,
Rural School and Community Trust

and the historical society discovered they could combine their efforts to the benefit of both. The LFK Pilot Project students and their teachers wanted to locate appropriate local residents to interview, while some historical society members wanted to learn about making digital audio recordings, and how to use new software that aids audio recording transcription. The students made presentations at JHS meetings, and some JHS members came to the school to talk about their activities. By the second year of the LFK Pilot Project almost ten percent of the local population of 1,200 people had joined the JHS.

- 2. Contact your local public library, local marine sanctuary, and museums.** Ellsworth High School students and teachers worked together with the Ellsworth Public Library (EPL). The EPL agreed to create a “Community Reads Program” using Mark Kurlansky’s book *Cod: A Biography of the Fish That Changed the World* to complement the students’ reading assignment. The EPL also hosted a series of meetings for the general public to learn about the LFK project and assisted students in organizing a free public supper entitled “From Ocean to Table.” The supper included a number of guest speakers who shared how fishing connected to their own lives and livelihood in our area. Over 250 people, including students and teachers, were present for the “Ocean to Table” supper. Maine Shellfish, a major supplier of fish to the New England area, donated the cod used for the fish chowder and the Hancock County Technical Center Culinary Arts Program cooked and served the meal.
- 3. Contact your local colleges.** A member of the LFK Resource Committee and Associate Professor at University of Maine Machias was a leading supporter of the LFK Pilot Project. He invited students to present in his ethno biology class and participate in a resource panel at the University to discuss coastal access issues; he was also a frequent speaker in high school classes.
- 4. Contact state and local agencies.** Several state and local agencies were involved in the project including the Maine Department of Marine Resources and the Union River Watershed. Representatives from these offices and from the NMFS office in Orono, Maine participated in Ellsworth High School’s Career Day to talk about marine-related careers.

Create programs that include the community

1. **Establish a project advisory group.** As previously mentioned, an advisory group can be an excellent source of information and resources needed to achieve project goals.
2. **Host a career day.** Invite members of the community in to discuss with students possible careers in fishing occupations, marine science, management, and policy. For college students who want to learn general information about student research programs and scholarships available for further study, check out the NOAA website at <http://www.education.noaa.gov/students.htm>.
3. **Launch an internship program** so students can job shadow or intern with representatives of the fishing, marine science, management, and policy fields. In Maine, the Oceanarium on Mount Desert Island has an internship program in place where students can be actively involved in lobster research. If you are interested in this program and/or wish an application write to: Oceanarium, P.O. Box 696, Southwest Harbor, Maine 04679. In turn, NOAA offers a variety of educational programs for teachers and students. You can learn more about these programs by visiting <http://www.education.noaa.gov/students.htm>.
4. **Create a website or blog** to share with the community what you are doing. Encourage people to write in and share.
5. **Invite the press** to discuss with students and teachers what their specific role is in reference to the fishing industry. Ask how they can be of help to you and how you, in turn, can be of help to them. Several newspapers wrote articles about the LFK Pilot Project (Brunton, 2004)

PB: So what do you think sounds like being more fun: being an interviewer, a journalist, or a mussel farmer?

WB: Mussel farmer. Sounds pretty cool, right now, actually.

JK: I was completely ignorant as to how mussel farming works. Now, I have an idea about it. It is so interesting. It is always neat to see how people will take an inch out of some place. Wow.

—Students commenting
on the EHS Career Fair

Public Presentations

Public presentations and culminating events with various audiences give students an opportunity to demonstrate what they have learned from their oral history projects and why the work matters. Recognizing accomplishments also demonstrates the value of the program and instills energy and excitement. Presentations to a selected public also can provide ongoing support and energy to a long-term project and provide appropriate closure.

Audiences should include educators, parents, community members, and leaders of local businesses and government. Extending invitations to members of the media is a good idea for positively promoting the program. Increased public recognition and awareness may lead to new funding opportunities as well.

A student presentation to the community at the end of the first year was an important turning point in the LFK Pilot Project in Jonesport-Beals. Students shared a multi-media slide show with parents, community and students that included clips from interviews interchanged with photos of local scenic places all viewed to the lyrics of Dan Fogelberg's song "The Reach," written with Jonesport in mind. The audience was overwhelmed by the talents, interest, and pride demonstrated by their young people. The following year, students made and sold calendars with some of the same photos featuring a different fisherman and his family each month.



CURRICULUM INTEGRATION



This section describes how teachers and others can integrate a VFF Project into a curriculum. Museum educators and educators with other marine-related organizations doing public education and outreach can adapt these curriculum strategies to meet their own particular educational needs.

An LFK Project provides an excellent opportunity to promote teaching and learning experiences that are relevant, rigorous, and promote strong relationships across generations. By using the local community as a context for learning, projects like LFK bring the resources of the community into the educational process and the energy, creativity, and skills of students to bear on important community and economic issues. School-community ties are strengthened in interesting ways.

For example, a school may decide it wants to emphasize documenting the local fishing knowledge and experiences of the oldest members of their local fishing community, while a regional museum may decide that they want to explore knowledge of changes in local fish habitat in the recent past. The local historical society may want to document the local boat

TU: I think the most thrilling (story) was one time I was off shore fishing for cod fish, and I had three of my brothers with me, and it was thick of fog and next thing I know I heard this whale blow. So I tell my brothers, “git up on the bow and haul the anchor up, I heard a whale blow”...I didn’t want to get up there. He said, “Oh, no” – he said we was catching fish by the bail and that’s just what those whales were there after—the cod fish, so he said, “let’s just fish, we can’t go home.”. The water all around us was full of cod and there was more than one whale, there were several whales. There was one that come straight for us, straight to the side and come right on top of us, on top of the water and when it got almost to us he lowered down and went right underneath the keel, right up on the other side. And I told the boys, I said, “haul the anchor we are getting out of here!: and we did. That is the greatest experience I think I have ever had.

—Tuddy Urqhart, December 4, 2003 Interview. VFF Database
<http://www.voices.nmfs.gov>

building industry that built a distinctive local-design fishing boat, but now specializes in recreational boats.

The two schools involved in the LFK Pilot Project developed different ways to incorporate the LFK Project into their curriculum. This chapter provides practical suggestions based on the experiences of the teachers who participated in the project.

Locating the Project in the Disciplines

Jonesport-Beals High School launched the project in computer, business, and entrepreneurship courses. Ellsworth High School required all sophomores to participate in the project as part of a tenth grade interdisciplinary unit. Each department had specific roles in the development, as well as joint responsibility, for the project. Teachers spent time during the summer preceding the project outlining their respective curricular focus. Ellsworth sophomores were divided into small groups of four or five for the purpose of interviewing based on a personality/interest inventory. The science teachers assigned students to a group and then asked each group to assign specific responsibilities that would include a:

- **Note-taker-database coder:** responsible for coding the interviewee responses with the database fields
- **Correspondent:** acted as interviewer
- **Technology Director:** made sure interviews were being recorded and transcribed correctly
- **Leader:** responsible for the various components of the interview, including the initial recruitment, correspondence with the person being interviewed, and successful completion of the interview, transcription, entry of information on the NOAA database, and other miscellaneous tasks.

In the first year of this project, Ellsworth student groups worked together both during class time and during their 60-minute advisory periods. Teachers met during the same advisory time and also during their lunch period once a week for planning.

Develop Guiding/Essential Questions

Developing a guiding/essential question is an effective way to encourage students to think deeply and provide a structure for organizing learning throughout a project. When students participate in the development of a question they are truly interested in finding the answers to, they engage. A guiding question can help them see the connections between the subject matter and their own lives.

Guiding questions reside at the top of Bloom’s taxonomy (Bloom, 1956), helping students recognize the “why” and “how” and encourage inquiry, discussion, and research. A good question will engage students in critical thinking, promote curiosity, and develop a questioning approach to the curriculum. In order to answer such questions, students must examine topics in depth and construct their own meaning and answers from the information they gathered. Guiding questions usually lend themselves well to multidisciplinary investigations, requiring students to apply the skills and perspectives of math and language arts while working with content from social studies or science. The goal is a transformation of information and a synthesis of new ideas, beliefs, and opinions.

In the Maine LFK Pilot Project, each community chose a different guiding question:

- **Jonesport-Beals:** What is your place in the changing face of your community’s marine culture?
- **Ellsworth:** How does the fishing industry connect to your school’s community?

Creating a Hook for Engaging Students

In order to maximize learning, it is critical that students are invested early in the project. Here are a few suggestions for ways to introduce and engage students. Find out what students know about their fishing community:

1. **Have students suggest a local fisherman/woman to interview in class.** This individual may be a parent or acquaintance of one of the students, and be an engaging storyteller. After hearing their story, students should ask questions, which then become a focus of the project.

2. **Do a “block party” strategic learning activity.** Write a series of quotes from the interviews on the VFF Database on index cards. Have at least one quote per participant, or repeat some quotes. Allow the students to randomly select a quote and spend a few minutes reflecting upon their quote’s meaning for them and their project. Have students mingle and share quotes in pairs. They should be encouraged to share with three other people in five-minute segments. Then have the whole group share ideas and questions raised by this experience. At the end, share the source of the quotes. Do some of the students have stories they already know they would like to share with the class? Do any of the students have individuals they would recommend for an interview?

3. **Show excerpts from a related film such as *The Perfect Storm (2000)*.**

Ask each student to assume the persona of one of the fishermen in the movie. He or she should write three to five journal entries about the expectation for the trip, the life on a boat at sea, the actual fishing experience, the emergence of the storm, and their final feelings to their respective families. Students can also go online at <http://perfectstorm.warnerbros.com/cmp/flash-doc-fr.html> and watch a 14-minute documentary featuring residents who actually lived through the storm featured in the movie. This activity will help students understand what it is like to step into the life of a fisherman.

4. **Take students to a museum, aquarium, oceanarium, or marine center of interest in your area to learn more about marine life.**

Ask the curator or education staff to talk about the various relationships between fishing and marine life. Ask whether it would be possible to have students’ exhibits on display at a later date demonstrating what the students have done through this program.

5. **Invite a scientist, an environmentalist, and a fisherman in to discuss** with the class what they see as the changes that have taken place within the fishing industry in your area.



Fishermen mending nets in Dulac, LA.

Photo: Palma Ingles

6. **Have a student fisherman talk about a day** in his life fishing and why he/she has chosen this occupation.

Curriculum Ideas for Launching the Project (by discipline)

ENGLISH/SOCIAL STUDIES - Both schools involved with this project assigned the book *Cod, A Biography of the Fish that Changed the World* (Kurlansky, 1997) to set a social and historical context of fishing for students. It correlates the fishing industry with world history by tracing the story of the codfish and its demise from the medieval period of European history to the present day. It shows the profound impact codfish has played specifically in New England and Canada.

Ellsworth High School students were assigned questions in their social studies classes for each chapter of the book. Specific issues in the book relevant to the LFK Pilot Project were discussed.

Jonesport-Beals students were assigned an Anticipation/Prediction guide that included the following questions:

**Anticipation/Prediction Guide
(If you agree, please explain)**

	AGREE	DISAGREE
1. Cod once played a vital economic role in our community.		
2. Cod once were fished more heavily than lobster.		
3. Cod stocks have remained constant over time.		
4. The increase in lobster caught is related to the number of cod available to catch.		
5. Cod and lobster could coexist and people could fish for both in the same fisheries zone.		

We read the Cod book. It gave us a lot of background and informed us as to how the cod industry began and we were really able to see how abundant the codfish were.

—Tierra Woods, student at Ellsworth High School, Ellsworth, Maine

There are many other books that would be excellent as background information for this project. An extensive list of these books can be found in the reference section on the LFK and VFF websites.

SOCIAL STUDIES - Ellsworth High School Social Studies teachers had students read “A Once Great Industry on the Brink” a four-part series in *The Boston Globe* (Daley and Cook, 2003). The five-day set of articles views the fishing industry from a variety of perspectives: fishermen, environmentalists, scientists, and federal

agency regulators. Possible lesson plans could include: 1) Have students participate in a debate representing different points of view; 2) Bring in an adult counterpart to help the students with each perspective; or 3) Have students write a research paper defending their position.

SCIENCE - Teachers assigned all biology science students a Gulf of Maine species research paper, and assigned each student the role of Research Scientist for the Department of Marine Resources. They chose a species that is currently or was historically of economic importance to the Gulf of Maine (e.g. lobster, mussels, shrimp, etc. See Appendix D - Sample Science Curriculum.)

- **Phase One:** Students researched their chosen species including the following: common name/scientific name, description (including photos), habitat description, range description, life cycle, predator/prey relationships, and potential and known threats to species stability.
- **Phase Two:** Students researched the economic importance of the species (both historically and currently) and included the following: uses by humans, method fished, current and historic population size, and current and historic management effort.

The following assignments were planned but not implemented:

- **Phase Three:** Students propose a management or restoration plan including the following: detailed habitat map with management area highlighted, possible impacts to fish species, and possible impact to fish industry. Fisheries management personnel review students’ management plans.

- **Phase Four:** Students create a power point presentation that could be presented to their classmates and/or community.

ENGLISH/SOCIAL STUDIES/BUSINESS/CAREER PREP COURSES - PREPARE FOR INTERVIEWS – In preparation for conducting interviews, Ellsworth High School and Jonesport-Beals High School students read a variety of actual interviews. Students participated in discussion topics such as:

- What makes a good interview topic?
- What makes it interesting?
- Are the questions open ended?

Students brainstormed communication dos and don'ts. After a discussion these were recorded and distributed to students as reference material. The major discussion of interviewing, recording transcription, and archiving will be discussed in the following sections.

Addressing Learning Standards (State and National)

The No Child Left Behind Act of 2001 (P.L. 107-110) requires teachers to teach to state standards and cover relevant content to ensure student success on state and national tests. Teachers can use interdisciplinary community-based projects like the LKF Project to enhance student understanding of complex academic content as well as create a learning environment in which numerous local and state learning standards are addressed in an integrated and meaningful way. By attending carefully to the standards relevant to the content of the project, teachers can be assured that community-based project work is a quality instructional strategy that encourages children to practice and apply an abundance of higher order skills. Before beginning an LFK-like project, educators and marine organization managers should identify local and national learning standards students need to meet. Below is a sample of state and national standards addressed in Maine's LFK Pilot Project.

ENGLISH/LANGUAGE ARTS

Maine Learning Standards - English

Secondary Grades 9-12

<http://www.maine.gov/education/lres/ela.htm>

Indicator B: Literature and Culture

Students will use reading, listening, and viewing strategies to experience, understand, and appreciate literature and culture. *Literary texts that are rich in quality, add to the understanding of history and various cultures, and build an appreciation of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.*

Indicator D: Informational Texts

Students will apply reading, listening, and viewing strategies to informational texts across all areas of curriculum. *When reading, listening, and viewing critically, students will ask pertinent questions, recognize assumptions and implications, and evaluate information and ideas. In a world that surrounds them with information, they have to be able to connect with this information and make sense of it.*

Indicator H: Research Related Writing and Speaking

Students will work, write, and speak effectively in connection with research in all content areas. *Research involves generating ideas and posing questions.*

1. Develop an appropriate strategy for finding information on a particular topic.
3. Record significant information from events attended and interviews conducted.
12. Report orally, using a variety of technological resources to present the results of a research project.

National Standards for the English Language Arts

<http://www.ncte.org/standards>

1. Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate,

and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

SOCIAL STUDIES/HISTORY

Maine Learning Standards – Social Studies

Secondary Grades 9-12 History

<http://www.maine.gov/education/lres/ss.htm>

Indicator B: Historical Knowledge, Concepts and Patterns

Students will develop historical knowledge of major events, people, and enduring themes in the United States, in Maine, and throughout world history.

Indicator C: Historical Inquiry, Analysis, and Interpretation

Students will learn to evaluate resource material such as documents, artifacts, maps, artworks, and literature, and to make judgments about the perspectives of the authors and their credibility when interpreting current historical events.

Geography

Indicator B. Human Interaction With Environments

Students will understand and analyze the relationships among people and their physical environment.

Economics Indicator B.

Students will understand the economic system of the United States, including its principles, development, and institutions. Students will be able to understand the factors (i.e., physical, capital, technology, monetary resources) that impact the development and distribution of a product.



Alaskan purse seiner lifting a catch of herring to the deck in the 1970s.

Photo: NOAA's Fisheries Collection, J. M. Olson

National Standards for Social Studies

Performance Expectations

<http://www.socialstudies.org/standards/strands>

- III. **People, Places, and Environments** - Social studies programs should include experiences that provide for the study of people, places, and environments, so that the learner can:
 - f. Describe, differentiate, and explain the relationships among various regional and global patterns of geographic phenomena such as landforms, soils, climate, vegetation, natural resources, and population.

- VII. **Production, Distribution, and Consumption** – Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services.

SCIENCE

Maine Learning Standards – Science and Technology

<http://www.maine.gov/education/lres/st.htm>

Indicator J: Inquiry and Problem-Solving

Students will apply inquiry and problem-solving approaches in science and technology.

Students will be able to:

1. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.

Indicator M: Implications of Science and Technology

Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.

Students will be able to:

2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.

National Science Standards

Content Standard A

All students should develop abilities to understand scientific inquiry.

Concepts related to this standard:

- Identify questions and concepts that guide scientific investigations
- Design and conduct scientific investigations
- Communicate and defend a scientific argument

Life Science

Content Standard E

http://www.nap.edu/openbook.php?record_id=4962&page=107#p20007cea9960107002

All students should develop abilities of technological design and understandings about science and technology.

Abilities of technological design:

- Identify a problem or design an opportunity.
- Propose designs and choose between alternative solutions.
- Implement a proposed solution.
- Evaluate the solution and its consequences.
- Communicate the problem, process, and solution.

Environmental Literacy

A gap exists between the scientific knowledge and skills most students learn in school and what they will need in 21st century communities and workplaces. NOAA believes integration of environmental literacy frameworks into formal and informal education is an important contribution toward addressing this gap in science literacy. The agency's support and promotion of experiential and place-based education programs extends the classroom to teach concepts through interdisciplinary methods that improve the active engagement of students in real scientific inquiry, increase the incorporation of important environmental concepts, and improve environmental stewardship behavior.

Environmental literacy is the capacity to act in daily life on a broad understanding of how people and societies relate to each other and natural systems. Environmental literacy is an integral component needed to achieve NOAA's goals to manage marine resources and protect life and property. In its Education Plan (www.oesd.noaa.gov/NOAA_Ed_Plan.pdf), NOAA defines an environmentally literate person as "someone who has a fundamental

understanding of the systems of that natural world, the relationships and interactions between the living and non-living environment, and has the ability to understand and utilize scientific evidence to make informed decisions regarding environmental issues.” The plan refers to the need for “a new generation of environmental citizens” to address the urgency of “prudent stewardship of our ocean and atmospheric resources given the pace of global change.” The Agency’s mission includes the advancement of educational efforts and engagement of “a broader community of partners in creating an environmentally literate society and a viable workforce in ocean, coastal, weather, and climate sciences to encourage stewardship and increase informed decision making for the Nation” (NOAA, 2008).

It is important that schools, youth, and their communities be included in the conversations about the management and protection of their coastal marine and ocean environments so that they become environmentally literate and can understand the complexities of securing viable futures in their communities. Several of the LFK Pilot Project activities help students develop attitudes of appreciation and concern for the environment as well as the capacity for action and participation.

Integration of Literacy Strategies

One of the challenges we addressed in the LFK Pilot Project was the generally low literacy skills of students. In partnership with the Center for Resource Management (CRM), we helped teachers expand their capacity to infuse literacy instruction into LFK Pilot Project activities that involved reading, writing, research, presenting and critical thinking (Appendix E: Planning for the Use of Literacy Support Strategies).

Below are some questions teachers may want to consider as they plan curricular activities (Meltzer, 2007):

READING (may include online sources)

1. What types of READING will the project include/require?
2. How will best practices in reading instruction be included as part of the project design (including collaborative protocols for looking at texts, strategic reading, note-taking and vocabulary development strategies)?
3. What specific reading skills will be taught/modeled? (skimming, main idea, question generating, etc.)
4. How will differentiation strategies be implemented to address the needs of all student participants?

RESEARCH/INQUIRY (includes technology)

1. What type of RESEARCH/INQUIRY will the project require?
2. What specific research skills will be taught/modeled? (hypothesis generating, summarizing, organizing, note-taking, semantic feature analysis, etc.)

WRITING (includes technology)

1. What types of public WRITING will the project require?
2. How will writing *instruction* and the writing *process* be incorporated into the project?
3. What specific writing skills will be modeled/taught? (use of rubrics to analyze drafts, summarizing, development or retention of voice, editing, formal versus informal uses of language, etc.)

SPEAKING/PRESENTING

1. What types of SPEAKING/PRESENTING will the project require?
2. What types of speaking/presentation skills will be taught? (interview techniques, development and use of visuals, audience awareness)

CRITICAL AND CREATIVE THINKING

Note: *Thinking skills* are essential to all aspects of literacy but should be thought of separately to ensure all participating students are assisted in developing their critical and creative thinking skills/problem-solving skills as an integral part of project design and implementation.

1. Specifically, what instructional strategies will be taught to brainstorm, focus, and organize ideas?
2. How will instruction support students' analytical and evaluative skill development during the project and how will the skill be evaluated?
3. How will project products specifically require synthesis of information across sources and/or adaptation of information to audience?

INSTRUCTION AND ASSESSMENT

Instruction and assessment must be planned as an integral part of the project design and implementation. Assessment should be formative as well as diagnostic and summative with regard to literacy habits and skills (see *Assessing Outcomes*, page 75).



Scientists working on offshore net pen off of Catalina Island, California in 2000.

Photo: NOAA's Fisheries Collection

ETHICAL & LEGAL ISSUES FOR INTERVIEWS



This section’s goal is to prepare you—teachers and schools, or other organizations or groups—to deal with the legal and ethical issues inherent in recording personal accounts. When you begin an oral history project of any kind, you must be informed about the ethical guidelines one is expected to adhere to when conducting and recording oral history interviews, no matter the purpose. There are laws that govern copyright issues that may also apply to recorded and/or transcribed oral histories. This section highlights these ethical and legal issues, and points out other resources for learning more about them. Finally, we discuss the interview release forms that NOAA’s Voices from the Fisheries Project requires be signed by interview participants before newly collected oral histories can be entered into the database.

Some Generally Accepted Ethical Guidelines for Interviewing

It is important everyone you, your students, or your organization interviews knows who is interviewing them. In addition to all the names of those who are participating in the interview and where they are from, interviewers must let the interviewee know the who and why of your project—who is conducting it and why they are conducting it. This applies to school projects, projects by other institutions and organizations, businesses, or any other entity. For example, if you are a teacher who decides to do a classroom oral history project interviewing fishermen in your area like the project in Ellsworth and Jonesport-Beals, Maine High Schools, your students must tell the prospective interviewee their interview is part of your school project. If more than one person will be conducting the interview, the interviewee should know who each member of the interview team is and their role in the interview.

Interviewees must agree to have their interviews recorded. Anyone conducting an oral history interview, including students, should explain to the person what you or your group will do with the recorded interview. Be explicit about all the ways that the interview will be used.

Interviewees must also agree to have copies of their interview shared with others, whether by making copies of the recording itself and passing them along, or by transcribing the content of the interviews, and then giving the transcription to others. Otherwise, it is not ethical to give copies of the interview to others.

If a copy of the interview is going to be placed on NOAA's Voices Database, accessed at www.voices.nmfs.noaa.gov, the ***interviewee needs to understand his or her interview will become public***, which means ***it will be available for everyone to read who has access to the internet***. Additionally, others can make copies of the interview, and they may use the copies for their own purposes. For example, a scholar or a journalist writing about fisherman might listen to or read their interview and then quote passages from it in what they write. ***There is no way to restrict access or use by others once the interview becomes public through placement on the Voices Database.***

While it is usual to ask biographical details like where and when a person was born, what work they are or were involved in, and what town they now live in during an interview, ***it is not acceptable to record personal data like exact addresses and phone numbers while interviews are being recorded. Never ask for social security numbers.*** It is necessary to protect interviewees' privacy. Remember that the interviews you collect may be widely shared with others.

Oral history project usually collect information like addresses and phone numbers in written form as part of the background information needed by interviewers for locating interviewees. Oral history projects develop and use biographical data forms so that demographic information can be used to group completed interviews into categories like "female" and "male," "began fishing before 1976" or "began fishing after 1976," or "active commercial fisherman" and "retired commercial fisherman." This information must be held in a safe place.

We call the process described above "**obtaining informed consent.**" Obtaining informed consent is an essential part of all oral history and other interviewing projects, indeed of all contemporary research that involves human beings. ***Those conducting and recording interviews have the responsibility to obtain informed consent from all interviewees.***

And a few final points:

- Give interviewees information on how they can contact your group later if they have questions about the interview.
- Give the interviewee a copy of their interview recording. If you, your students, or your organization transcribe the interview, your group should also give them a copy of the transcription.

Release Forms and Why We Use Them

Today it is common practice to have everyone involved in an interview sign a release form. Different release forms are signed by the person being interviewed and the person or persons conducting the interview. Others involved in the interview are also asked to sign release forms, e.g., if someone is operating the recording device but not asking questions, they should also sign an appropriate release form.

A signed release form is regarded as evidence that informed consent has been obtained for the interview to be recorded and to be used in the specific manner described in the release form. Release forms, when properly written up, provide legal protections for everyone involved in an interview. They typically also affirm an interviewee's ownership of the copyright associated with the interview.

We strongly urge anyone developing an oral history project to develop a set of release forms for their project. If you are working with a school or other institution or organization, you may be required to have their legal staff review your project's release forms. Be sure to build in enough time to develop and get approval for your release forms if approval is required.

NOAA's VFF Database Project has developed a set of release forms for use by anyone who wants to develop a new fisheries or marine-related oral history project for inclusion on the VFF Database, or to donate already existing oral histories to the VFF Database. Before a person can add their interviews to the VFF Database, they are required to warrant that they have obtained signed release forms.



The fish auction for commercially-caught fish, 1997.
Portland, Maine.

Photo: NOAA's Fisheries Collection, William B. Folsom

The NOAA VFF Release Forms were developed in consultation with the General Council Offices of NOAA and the Department of Commerce to meet legal requirements when donating oral history interviews to NOAA's VFF Database. They should be used by those interviewed and their interviewers, as well as those who are donating interviews collected by others from whom they have obtained permission to donate to the VFF Database. The interviewee, or his or her heirs if they are making the donation, reserve to themselves any copyright or performance rights that they may hold. These forms may provide good models for anyone who needs to develop a set of release forms for oral history projects for different purposes. The NOAA VFF Release Forms can be downloaded from the Voices website at www.voices.nmfs.noaa.gov, and are also found in Appendix F in this handbook. To reiterate a point made earlier, although the donated interviews are intended for scholarly and educational purposes by NOAA and the public, NOAA cannot control the uses that the public makes of donated interviews once they are placed on the VFF Database.

Where to Find More Information about Ethical and Legal Issues Related to Oral History

Many resources are available to the public through the internet that can provide more detailed information on the issues discussed above. An excellent place to start is the Oral History Association's website at <http://www.oralhistory.org/contact-us/>.

The Oral History Association provides a useful series of publications including their Oral History Evaluation Guidelines (1991) that can be downloaded at http://www.oralhistory.org/network/mw/index.php/Evaluation_Guide. This publication has been adopted by the National Endowment for the Humanities as the standard for conducting oral history. It includes a detailed discussion of ethical issues related to collecting oral histories.

Another useful website is the U.S. Copyright Office's website: <http://www.copyright.gov/>. This site provides useful information about U.S. copyright law, including easy to understand explanations of what copyright is, how one obtains it, and the fair use of copyright protected materials by scholars, students, journalists, and the public. This relates to the use of oral history interviews that have been collected and then donated for inclusion on publicly accessible databases like NOAA's VFF Database.

RECORDING TECHNOLOGIES & RELATED MATTERS



Interviews can be recorded by hand using paper and pencil or pen, by tape (analog) or digital recorders, by appropriately equipped laptop computers, and by digital videotaping with sound. A photograph of the person being interviewed can become part of the record too, and digital technology makes it easy to insert the photograph into the transcribed interview document itself. Both video and film-based and digital still photography can be used to document techniques and processes described in interviews, e.g., how to build a boat or knit a lobster trap net head. They are also useful for documenting objects that may be otherwise hard for someone to visualize from just listening to an audio-recorded interview or reading its transcription, e.g., a distinctive local boat hull, or a particular kind of fish trap. Each recording technology has its own strengths and limitations, and its place, but a project's budget may be the factor determining the final decision about interview recording methods.

Technologies are constantly improved or changed, so contact technology experts to discuss your needs before you make your equipment choices. What we describe here will probably become obsolete in the near future, so specific recommendations about equipment. You can also find discussions about the relative strengths of different recording technologies on several of the oral history websites we list in the resources section.

Here are some things to think about while you are deciding how to record the oral histories you will be collecting.

Paper and Pencil or Pen

Advantages: This technology is universally available and inexpensive. It can be used by anyone with basic literacy skills.

Limitations: It is very difficult to capture the exact words of the interview precisely as they are said. It takes the interviewer's attention away from the interviewee because the interviewer has to concentrate on speedily and

accurately recording the words that she or he is hearing as they are being spoken. This means that the interviewer/note taker cannot easily engage in conversational probes that keep an interview flowing like “tell me more about that,” the follow up questions like “was your father a fisherman too?”, and nods and encouraging “uhhuh’s” that let the interviewee know that the interviewer is interested and is listening.

Note Taking Still Has a Place: Despite these limitations, some note taking should be done during an interview. It is useful to jot down basic topics as they come up, and to write down follow-up questions to pursue with the interviewee. Notes can also be used to reconstruct interviews if something happens to the recording equipment during an interview.

Life Expectancy: Written or printed notes or transcriptions of recorded interviews written or printed on acid-free paper and stored in controlled conditions can last for centuries. Any paper with acid content has a shortened life expectancy. The poorest quality paper meant to be thrown away like newsprint deteriorates very quickly. To prevent loss of written or printed interviews or interview notes, acid-free paper should be used, and proper storage conditions should be maintained. This technology is the most stable of all the recording technologies. This is an important reason to take the time to produce written transcriptions of all recorded interviews, ensuring that they will be available to future generations.

Tape (Analog) Recorders

Advantages: Tape recorders enable exact recording of interviews. Exact recordings capture not only the words of an interviewee, but also other dimensions of speech including tone, inflection, and pauses, which themselves contain important information about the meaning of the words. An interviewee’s distinctive dialect and language will also be preserved. Tapes can be copied and shared with others. Tapes can be listened to over and over.

Limitations: Tape recorders produce machine noise that can be heard on the recording. Although one can use the rewind/play functions on audiotape recorders to repeat sections of a recording while transcribing an interview, it is not very efficient and will increase the time it takes to complete interview transcriptions. Special transcribing equipment can be purchased that will help with this operation, but it means additional cost. Audio or

analog tapes are becoming obsolete, replaced by digital audio recorders. Archives like the Voices from the Fisheries Database (see page73) can only accept digital audio recordings so you would have to convert analog tape recordings to digital audio recordings before you could contribute a copy of any marine-focused oral history to that database.

Audio Tapes: Only good quality 60 to 90 min audio tapes should be used. Only use full-sized audio tape cassettes; do not use the mini cassettes. Plan to make at minimum one additional copy of each original taped interview. Do not forget to give a copy of the interview to the person being interviewed, so buy at least three times as many tapes as you need to initially record the interviews. Some interviews may last up to two hours or more, so you need to take multiple tapes to each interview session to ensure you can record the entire interview without running out of tapes.

Power Sources: Recorders can be powered with batteries, or by plugging them into a main power source. Batteries provide reliable steady power and allow you to record in locations where no main power source is readily available, but they must be checked periodically to make sure they are not running low on power. Always carry a supply of fresh batteries. Always check your battery level periodically during an interview to make sure the batteries continue to deliver sufficient power to make a good recording. If you use a main power source, you still need to check it to make sure that it is steady, and not fluctuating in ways that will affect the quality of a particular recording.

Cost: Cost for recorders ranges from relatively inexpensive models for the home user for as little as \$30 to much more expensive professional models that can cost over \$500. The price for good quality audio tapes ranges between \$1 and \$3 per tape. Cost for batteries varies according to battery size and battery life expectancy. If you use batteries, try to get long-life batteries. Rechargeable batteries may save expense in the long run. Specialized transcription equipment ranges in price too.

Life Expectancy: Audio tape—a magnetic media—deteriorates over time; its life expectancy stored under good archival conditions is estimated at 10-



Demonstrating using video recording equipment at the Virgin Islands Aquatic Heritage Teaching Training Workshop in St. Croix, USVI, 2008.
Photo: Susan Abbott-Jamieson

30 years. A related issue is the life expectancy of the recording equipment itself and the future availability of the technology needed to listen to audio or view video recordings. These issues are of great concern to the world's archivists and librarians. For discussions of magnetic media life expectancy issues, see Van Bogart (1995) and Byers (2003).

Other: The original interview tapes should be copied; they should also be transferred to a CD-R. All transcription work should be done using the copy, not the original recording. If the recordings are transferred to CDs, transcription can easily be done on a computer.

Digital Recorders

Advantages: Digital recordings can be downloaded directly onto a computer for transcription. Once they are transferred to a computer, copies can easily be made on CDs. Digital recorders do not produce machine background noise, the whirring picked up by analog recorders when remote microphones are not used.

Limitations: You will need special software for transforming the digital recording into a file format like an MP3 file to reduce the space required to store the recording. You will also need the software to enable you to transcribe the recorded material. Some digital recorders come with their own software. You can also buy transcription software. Locate a resource person in your local area who can help you choose the best software for your needs within your budget.

Power Source: See the discussion above for tape recorders. The same considerations apply for digital recorders when deciding on what power source fits your particular recording conditions.

Cost: Digital recorders range from as little as \$50 to over \$1,000 for high end, professional recorders, however relatively small, easily used digital recorders of excellent quality are available in the \$200-\$300 range. A recent internet search produced transcription software costs in the \$150-\$300 range.

Life Expectancy: When transferred to write-once CDs, these recordings have longer life expectancy/stability than audio tapes. Life expectancy varies depending on the kind of CD used, storage conditions, handling and use. Equipment used to play back recordings also changes, and future obsolescence of this equipment can mean loss of recordings.

Microphones

Advantages: Sound quality will be improved if you use independent microphones for both tape and digital recorders. Microphones help eliminate the whirring machine noise from a recording made on an analog or tape recorder. It is best to use two lapel microphones—one pinned to the person being interviewed, the other to the interviewer. If you have a single microphone, put it on a table or other resting place between the interviewer(s) and the person being interviewed. Microphones are very sensitive, so rest it on a piece of foam or other cushioning material so that it does not pick up scraping or other noises during the interview. Try to conduct interviews in environments with minimal background noise of all kinds so that sensitive microphones don't pick up other sounds that make it difficult to hear the interview itself.

Costs: Microphones vary in cost reflecting their design—wired or wireless, omnidirectional, bidirectional, etc., and their quality. Costs can range from \$15 to more than \$200 depending on your needs.

Detailed, technical discussions about everything from different recording technologies to how to safely archive recorded material can be accessed on the internet. We recommend familiarizing yourself with the strengths and limitations of the standard ways oral history materials are collected well ahead of starting any project. Do not overlook talking with media technical staff at your school or other technical experts if you have access to them; they can be very helpful. Ask others for names of people in your community with appropriate technical expertise, and then contact them to get their advice. A general piece of advice is to buy the best equipment that your project can afford to ensure that you will produce good quality recordings. If recording quality is poor, their usefulness will be diminished.

Once you have decided how to record the materials you will be collecting, and have acquired a recording device, take time to practice using the recording device so that you and everyone participating in your project are equally comfortable with the technology. Experiment with the equipment to see how different amounts and kinds of background noise affect the recording quality. This will help you decide how to arrange or modify recording sessions when you are conducting oral history interviews in interviewees' homes or in public settings to ensure good quality recordings. Below are some internet accessible references in the References section to help you locate useful information on recording technologies.

Some Helpful Resources for Recording Technology

Byers, Fred R. Care and Handling of CDs and DVDs: A Guide for Librarians and Archivists. Pp. 48, 2003. Accessed at <http://www.clir.org/pubs/reports/pub121/pub121.pdf> (accessed 1 August 2008).

Kolvos, Andy. Digital Audio Field Recording Equipment. Vermont Folklife Center, 2008. Accessed at http://www.vermontfolklifecenter.org/archive/res_audioequip.htm (accessed 15 December 2008).

Kolvos, Andy. Digital Editing of Field Audio. Vermont Folklife Center. Accessed at http://www.vermontfolklifecenter.org/archive/res_digitalediting.htm (accessed 15 December 2008).

Van Bogart, John W.C. Van. Magnetic Tape Storage and Handling: A Guide for Libraries and Archives. Washington, D.C.: The Commission on Preservation and Access and the National Media Laboratory, 1995. Accessed at <http://www.clir.org/pubs/reports/pub54/index.html> (accessed 1 August 2008).

INTERVIEWING



Interviewing is the core activity in any Voices oral history project. Interviewing is a skill that people can learn to do with some guidelines to follow, some planning ahead, and practice. While most will not become professional interviewers with the skill of a good journalist, folklorist or oral historian, anthropologist or sociologist, one can still learn enough good technique to carry out an acceptable oral history interview. This section describes the steps involved in preparing for, conducting, recording, transcribing, copying, and storing or archiving for preserving and sharing completed interviews.

What I realized is that it is not so much what you want to sell but you have to sell what people want to buy. Long way around, when people come to Maine, they want lobster, blueberry pie, and a water view; I've done some research on this. Maine seafood, it is some of the best in the world. That is sort of the long way around in that story. You've got to sell what people want to buy and that is what they want to buy.

—Brian Langley, May 12, 2004,
Interview. VFF Database -
<http://www.voices.nmfs.noaa.gov/>

Although these instructions are weighted toward teachers implementing VFF projects in their classrooms, they can easily be applied to any group's needs. No matter who is interviewing, these steps will help them prepare for, conduct, record, and transcribe interviews. The steps covered in this section include How to Start, Conducting the Interview, and Next Steps with Interview Recordings. The concluding section recommends additional resources for those who want to learn more about developing their interviewing skills and handling recorded interviews once they have been collected.

This section combines recommendations based on teachers' experiences with the LFK Pilot Project, suggestions provided in multiple publications and websites devoted to interviewing in general and oral history interviewing in particular, and the authors' experience and training as educators and professional social scientists.

All interviewing is a conversation with another person, although it is a special kind of conversation. We all engage in conversations every day, and so we already have many of the skills that are outlined below.

How to Start

Identify People to Interview

If you are a teacher, brainstorm with other teachers who are participating in the project to identify all the ways you can locate potential interviewees. Teachers can also carry out this activity in their classrooms with the students who will be participating in the project. For example, during one of their advisory periods at Ellsworth High School every student and teacher in the school was asked to write down names of people they thought would be good to interview. The students then entered these names into a database of potential interviewees.

Other approaches to locating potential interviewees that teachers can consider trying are listed below.

APPROACHES TO LOCATE POTENTIAL INTERVIEWEES

- Ask students to list **names of family members and friends** who have a connection with marine fishing or the marine environment.
- Ask students to **read local newspapers for articles** connected to marine fishing and the marine environment to locate potential interviewees.
- Solicit names of people to interview on **flyers and posters** placed throughout the community.
- Check with **local radio and TV stations** to see if they will mention your search for people to interview during their broadcasts.
- Ask the **people you interview** to suggest other people they think would be interested in being interviewed. They will usually know others who would be good candidates for an interview.

For those who are not classroom teachers, try brainstorming with other members of your historical society or fisherman's organization, or

whatever entity you belong to that wants to carry out VFF interviews. If you are an individual who wants to participate on your own. Talk to others who share your interest—family, neighbors, friends, co-workers—to develop your interviewee list. If you or your organization belongs to a listserv with a relevant focus, try putting out a call for participants on that listserv. The suggestions listed above for teachers can be adapted for use by any organization or individual.

Decide on Team Interviews versus One-on-One Interviews

Many oral history interviews are carried out by one individual who interviews another individual without other people present. This is a time honored and excellent way to conduct interviews, and it may be the way you decide to structure your interview sessions. Many teachers, however, have found that dividing students into interview teams of two to five students works very well for school-based projects. Advantages of this approach include dividing the tasks involved in any interview among a set of people so that they can provide back-up for each other. This seems to improve student confidence in successfully completing assigned interviews. Both Ellsworth and Jonesport-Beals High Schools used the team interview approach for their interviews, which was already described in an earlier section of this handbook (see page 20). Teachers should decide which approach they plan to use before they begin preparing their students for their interviews because it will affect the way they organize the interview practice sessions. Whichever approach is selected, practice sessions should be conducted utilizing that approach.

Prepare for the Interview

Find out about the person who will be interviewed. Those conducting interviews must learn as much as possible about each person they interview. This will help the interviewer create appropriate and pertinent questions and help them demonstrate interest during an interview. The latter is important for establishing good rapport with any interviewee.



Jonesport/Beals High School student interviewers with retired fisherman, Tuddy Urquardt, in his home following his interview in 2003. Photo: Linda Church

Find out about the subjects to be covered in each interview. Those conducting interviews must prepare for the interview process by learning about the subject areas that may be covered in an interview. A good way to do this is to read through or listen to interviews other people have done on similar topics.

A growing inventory of interviews can be accessed on NOAA's VFF website at <http://www.voices.nmfs.noaa.gov>. To access the interviews, click on the **Search Interviews** button and select the most pertinent topic areas to locate interviews with relevant content. Some are transcriptions of interviews in PDF files, others are MP3 digital audio files, and some interviews have both transcribed text and audio files. The complete interviews can be viewed or listened to directly on the site itself. They can also be downloaded to your own computer. You will be able to view and print copies of the PDF files, and listen to the audio digital files with your computer's media player or on any MP3 audio player once you load the file to the player.

A good training exercise for teachers and their students is to read or listen to sample interviews and underline or flag in some way what they consider to be good interview strategies, and the parts of the interview they found especially enjoyable or surprising. They can also look for examples of poor interviewing strategy when questions seemed to produce no information, or an interruption caused an interviewee to stop talking. Once this task has been completed, the class can pick one interview to discuss in detail as a group. Here are a few discussion questions to help you frame questions for your own classroom.

DISCUSSION QUESTIONS

- What subjects were discussed in the interview?
- What was the most surprising thing that you learned? Why were you surprised?
- What types of questions were asked? Were these questions open-ended or closed questions?
- Was this interview a good one? Why or why not?
- What questions would you have asked differently?
- What would have made the interview better?
- Does the person who did the interview seem to have done pre-interview research?
- Can you explain why you think that is so?

Individuals can conduct this same training process by themselves to improve their own interviewing skills, and this approach can also be adapted for use by community organizations that are planning to conduct marine environment and fisheries focused interviews.

Prepare Interview Questions

Whether an oral history project is part of a school project, or conducted by a community organization or individual, the next step in preparing for actual interviews is to create a set of interview questions based on the research and interview preparation work described in the previous sections. Sometimes those who are preparing for interviews do not prepare specific questions, but rather prepare well thought through topics or thematic lists. They then use these lists as memory aids to make sure that they ask the interviewee to talk about each topic. Whether you prepare an interview guide made up of specific questions, or one listing the topics you plan to ask your interviewee to talk about, the important thing is you have thought through what you hope to learn from the interviews that you will conduct. This is the only way you can ensure that you and your interviewee will together produce a successful interview.

To help teachers and others think about how to craft good questions for interviews, we have prepared a few guidelines. The first set of guidelines can be reviewed in Table 1: Question Types to Use and to Avoid during Interviews. This table points out that the best questions are usually open-ended questions that encourage the interviewee to expand on a topic. This kind of question is contrasted with closed questions that allow interviewees to answer with simple yes or no responses. If one uses too many questions structured this way, an interview will be very short; you will not learn very much because this kind of question does not encourage interviewees to expand on their knowledge. Leading questions should also be guarded against because they usually produce answers that are “forced” by the way the question itself has been framed. In this case, you have no way of knowing if the answer accurately reflects what the person interviewed thinks or believes. It may actually reflect what you have “led” them to say.

Table 2: Some More Useful Question Types for Interviews illustrates three more ways to think about interview questions. **Memory questions** are very good questions to use in the early stages of an interview. They are questions that will put the interviewee at ease and are usually easy to answer. The answers provide important background information about an interviewee;

TABLE 1: QUESTION TYPES TO USE AND TO AVOID DURING INTERVIEWS

(Adapted from Michael Gatto, History Channel Workbook, n.d., Gatto, 2009)

Question Type	Examples	Comment
Open-ended	<ul style="list-style-type: none"> I would like to hear about life on a fishing vessel. Tell me about the tasks you do during a typical day on the water. Tell me how you learned to operate a dredge. 	Invites the person interviewed to develop a line of conversation expanding on the initial query from the interviewer.
Closed	<ul style="list-style-type: none"> Can you tell me about life on a fishing vessel? Did your father teach you to operate a dredge? 	Both pull for a simple Yes or No answer. They require follow up questions. Sometimes Yes or No is what is needed, e.g., to confirm something just said, but avoid this way of phrasing questions when one is really wanting the person to expand on the subject.
Leading	<ul style="list-style-type: none"> Everyone says that fishing is a hard way to make a living today. Don't you think so too? 	Sets up the interviewee to respond similarly to the opinion just expressed by the person conducting the interview. It is hard for an interviewee to challenge the person interviewing them and say something different. Avoid this kind of question.

information important for placing him or her in time and space. Examples of these kinds of questions include asking the person their full name, when and where they were born, where they grew up, who their mother and father were, and where their parents grew up. Other good questions include what the interviewee's occupation or profession is, where they work, how long they have worked there, or if they are retired—where they worked before they retired.

Explanation questions serve to encourage interviewees to expand on the experiences they are describing, the stories they are telling, and to explain their responses to these events in their lives. Explanation questions will usually be phrased as open ended questions. Some examples include: "What caused event X?", "Why was this event different from the other event you just described?" "What is going on in this photograph you're holding? I don't understand what I'm seeing." Other examples are listed in Table 2.

Finally, **Judgment Questions** offer interviewees a chance to talk about what they think was good or bad, important or less important. They allow the interviewee to sum up and draw conclusions about the events they described and to give his or her own interpretation of events and experiences. Some judgment questions are most appropriate as an interview begins to reach its natural conclusion, while others can be used throughout

TABLE 2: SOME MORE USEFUL QUESTION TYPES FOR INTERVIEWS
 (Adapted from Michael Gatto, History Channel Workbook, n.d., Gatto, 2009)

Question Type	Examples	Comment
Memory	<ul style="list-style-type: none"> • Tell me your full name. • Where you were born? • What year were you born? • What were your father’s and your mother’s names? • Where did you grow up? • How long have you lived in this area? • Can you remember when you first wanted to become a fisheries biologist? Tell me about it. 	<p>Begin with memory questions. Memory questions will help interviewees relax and get them in the mood to reminisce. These questions will help you gather information about your subject’s personal experiences.</p>
Explanation	<ul style="list-style-type: none"> • What caused this event...? • Why did this happen...? • What happened next...? • Can you describe the scene in one word...? • Can you compare two events...? • Explain the reason for...? • What conclusion can you draw...? • What is your point of view about...? • Can you describe the scene...? • Can you explain a photograph...? 	<p>These questions encourage interviewees to expand and explain their feelings and ideas. These second stage questions should encourage interviewees to dig deeper into the stories to explain why things happened and how they relate to other events.</p>
Judgment	<ul style="list-style-type: none"> • What is your happiest (funniest or saddest) memory of (marine-related job) ? • What was your biggest accomplishment? • What actions would you change if you had a chance to relive those years again? • What mistakes did people make during this period or event (related to marine job/environment)? • What should people today remember about this time/ event? 	<p>These questions offer interviewees a chance to talk about what they think was good or bad, important or less important. This is your interviewee’s opportunity to give his or her own interpretation of events and experiences. These questions should be asked when the stories about specific episodes or experiences appear to be reaching their conclusion because they allow the interviewee to reflect on the meaning of these experiences to the person, their family, and/or their community.</p>

the interview whenever an interviewee appears to have completed relating a particular story or life episode.

It is also good practice to *anchor events in time* throughout an interview, so whenever an interviewee talks about changing their job or moving their home, or mentions some event that they think is important, ask them the approximate date or year when that event occurred. If they cannot remember the date, ask them if it happened before or after other events they mention in their interview, e.g., before or after they left school, got married, changed from fishing for tuna to fishing for salmon, and so forth. This can be helpful in establishing relative timelines for events in a person's life. You can also ask them to relate events to important historical events that most people will know about. Examples of this dating strategy would be asking the person if the event happened before or after the Korean War, before or after the Vietnam War, or before or after 9/11 (the New York World Trade Center attack), or before or after some major local or regional event that most people in your area will note and remember like Hurricane Katrina on the Gulf of Mexico coast. Because you know the actual dates of these events, they will help you assign dates to events in the interviewee's life.

Once students have prepared sample questions, teachers may consider having students model the different question types in mock interviews as a classroom training exercise. Community organizations could conduct similar training exercises for their members who plan to conduct interviews.

Prepare an Introduction

All oral history interviewers must think through and prepare ahead of time an introductory statement that they will use when they first meet with the person they will be interviewing. This statement or set of remarks serve to introduce those who will be participating in the interview to each other, to frame and focus the interview for the interviewee, and to inform the interviewee about the purpose of the interview, the uses to which it will be put so far as those are known, and to ensure that you will have thought through before hand what you want to accomplish during the interview. Teachers can have their students write an introduction to each interview they plan to conduct that introduces those from the school who will be involved in the interview, and includes an explanation of the project and its purpose.

Interview Practice

Students should have an opportunity to practice, discuss, and observe interviews before they go out on their own. Some suggestions for how to do this in classroom settings include conducting fish bowl interviews, dividing the classroom into pairs of students to interview each other, and assigning students to interview their own or a friend's parent, grandparent, or neighbor, or watching video-taped interviews. These strategies are best after the class has observed good role models and have interview rubrics in hand.

A **fishbowl interview** is a classroom discussion group in which the class is divided into two groups. One group participates; the rest of the class observes and listens. An interview is then staged between the teacher and a guest, or alternately between a group of students who have already done interviews and a guest. The students in the participating group are encouraged to note the types of questions used by those interviewing the guest, e.g., closed versus open-ended questions, memory questions, and so forth. They need to write out questions on a 3x5 card that they would have asked as the interviewer. At the end of the interview, students share their observations and questions. The exercise can be repeated by assigning the group of students previously assigned to observe and listen, to take on the role of the participating group, while the those who previously participated, now become observers.

Paired student interviews consists of having students interview with each other, followed by a critique of how the students felt the interview went, identifying ways that it could have been improved. It is a good idea to pair up students so that they do not interview their best friend, or interview someone from their friendship clique. The reason to avoid this is that when we interview others whom we know well, we tend to assume we already know their answers to questions we might ask them so we don't ask those questions. If we had asked the questions, they may well have produced answers that were unexpected; we may not know as much about a person as we think we know. There is also an increased tendency for the person being interviewed to answer in ways that maintain or preserve the preexisting relationship within whatever bounds already exist for that relationship. This serves to further constrict or limit the kind of information that is shared.

Student interviews of their own or a friend's parent or grandparent, or of a



Guest and teacher modeling interview for students in a Jonesport-Beals High School classroom, 2003. Photo: Jennifer Isé.

neighbor is another good way for students to practice interviewing. Have students write five open-ended questions during class and interview their test subject as homework. The next day they will report back to the whole class about the experience and what they learned from it. Ask students similar questions from the fish bowl exercise as an aid to critiquing their interview experiences. If they interview their own relatives, ask them to critique how they think the interview was affected by their existing relationship with the person.

Watching videotaped interviews done by an earlier group of students or a different school as a class can also be a good way to train for interviewing. Videotapes of segments of interviews by professionals can also be used. Listening to an MP3 digital audio file of one of the interviews on the Voices from the Fisheries Database is another possible option. Some of the interviews are better than others; some were conducted by students and others were conducted by professional folklorists and social scientists. They offer good resource material for training exercises.

The more practice all interviewers including students get, the more confident they will be to do their own interviews. This is so for anyone wanting to conduct oral history interviews.

Approaches to Critiquing Practice Interviews

Some ideas for questions to ask students when they are critiquing others' interviews, no matter what kind, include:

CRITIQUE QUESTIONS

- What difficulties did you experience doing the interview?
- Was it easier to observe or to be a participant? Why? (for fish bowl interviews)
- Did the student (interviewer) ask questions that you expected?
- Did you wish the student (interviewer) asked more? Why?
- If you could interview the student again (if the interviewer could redo the interview), what follow up questions would you ask?

Once you have led a classroom discussion using some of these questions, students may find it helpful to brainstorm a list of interview dos and don'ts. Compile the lists and give each student in the class a copy. This will help reinforce the lessons they have been learning about productive and unproductive questions in interviews, as well as other aspects of the interview situation.

Equipment Practice

Before students (or anyone) goes to an interview, they must practice using the recording equipment—audio and/or video. If you are a teacher, be sure you feel comfortable yourself with all the equipment you have decided to use for your project before you introduce it to your students. If you have technology resource staff in your school, you will probably want to enlist their help with your equipment. Technology staff at Ellsworth High School provided helpful support to the Ellsworth teachers throughout the LFK Pilot Project. For an informed discussion on current recording equipment, read Andy Kolvos' useful *Digital Audio Field Recording Equipment Guide* (Kolvos, 2008). It can be downloaded from the Vermont Folklife Center's website at http://www.vermontfolklifecenter.org/archive/res_audioequip.htm.

Make sure students test all equipment before going to every interview they conduct. Make sure each interview kit always includes extra batteries, a pen and pencil, notebook, and a tripod if using a camera. Have a backup plan for how to handle equipment failure during an interview.

Pre-interview Session

We recommend having your students conduct a pre-interview session with their interviewee. This can help put both parties at ease. If it is not possible to conduct a pre-interview face-to-face, a telephone conversation can suffice. The pre-interview can also spark the interviewee's memory about experiences, names of people and places, and feelings about a specific event or period of time.

During a pre-interview, students should do several things. Here is a list of what they are:

PRE-INTERVIEW CHECKLIST

- Discuss the purpose of the project.
- Share their list of interview questions with the interviewee and perhaps identify new ones based on the discussion.
- Let the interviewee know that they will record the interview with audio and/or video recording equipment.
- Give the release form to the interviewee and have them sign it. Be prepared to

explain its content in everyday language. (See Legal and Ethical Issues, page 35 and sample release forms in Appendix F.)

- Explain to the interviewee what you want to do with the interview recording. If a copy is to be donated to a public repository like the VFF Database that everyone can access, then its use cannot be controlled. Find out if they want any restrictions placed on access to the interview, because this will affect what you can do with it once it is collected.
- Schedule a specific time and place for the actual interview. Sometimes people feel more comfortable having the interview done in their home. If this is not possible, other potential locations include the local school, museum, library, marine center, or place of work of the person being interviewed.

See Appendix G for a sample Pre-Interview Worksheet to help students through their first meeting. These suggestions also apply to community groups and individuals.

Conducting the Interview

Once students have set up the time and place for the interview, they should be on time, bringing all of their equipment. Teachers need to direct students to test out the equipment as the interview begins by stating the following:

- Name of person(s) being interviewed
- Names of each person doing the interview
- Subject (s) of the interview
- Location of the interview
- Time and date of the interview

At this point, the interview should pause while the interviewer (or person assigned to monitor the recording equipment in team interviews), plays back a bit of the recording to make sure that the equipment is functioning properly. Little is more distressing than to discover at the end of an interview that one's equipment wasn't working! Once the equipment check has been performed, the interview can continue with the assurance that it is being recorded as planned.

During the interview, students should:

- Greet the interviewee and make him or her feel as comfortable as possible.

- Introduce each member of the interviewing team.
- Remind the interviewee that he or she is being recorded and explain the purpose of the project.
- Never assume they know the answers to any question. Let the interviewee tell them their answers



Jonesport/Beals HS student interviewers talking with John Faulkingham, a local fishing supplies dealer and fisherman, after completing his oral history interview.

Photo: Linda Church

Another highly useful practice is to take notes, or assign one or more students to take notes if it is a team interview. This will help interview participants formulate thoughtful follow up questions during the interview. Follow up questions are illustrated in the example.

FOLLOW-UP QUESTION EXAMPLE

Question: How did you first develop an interest in fishing?

Answer: When I was a little boy, I would go out fishing with my grandfather.

First Follow up Question: What are some of the things you did to help your grandfather while he fished?

Second Follow up Question: Are there fishing activities that he wouldn't let you help with? What were they? Why wouldn't he let you do those jobs?

Always act interested. Ask one question at a time and do not interrupt to ask questions. Students should pay attention to an interviewee while he or she is talking. Students should refrain from unnecessary fiddling with the recording equipment.

If the person uses words students do not understand, they should make a note to **ask the meaning of the word**. This is particularly important for words related to the topic of the interview like those used in the next example.

Expect silent moments. If they occur, students should use the time to reflect and consider their core set of questions, but also be prepared for the unexpected. If the interviewee wanders off with an interesting

DC: “Um, I’m using lobstermen terminology here just so you can pick up on that. I might fish a string here they call it this five to ten traps. Um, each lobster buoy is made of Styrofoam and each has a spindle on them and that’s the part that you hang on to so you got a Styrofoam usually with a handle.”

—Interview with Danner Curtis, May 23, 2004. VFF Database: <http://www.voices.nmfs.noaa.gov>

story, they should allow it if it adds to their understanding of the topic. If it does not, they should politely return to their list of questions after the story is completed. For example, students may have focused the interview on lobster fishing only, but find out during the interview that the interviewee spent the first 15 years of their life tuna fishing in the Pacific Ocean, and though they do trap lobsters, they harvest other kinds of marine resources during other times of the year, like the excerpt from David Sargent’s interview (below) illustrates. This type of

information adds breadth to an interview, and can expand understanding of interviewees’ lives and relationships to marine fisheries and the marine environment.

Thank the person at the end of the interview by letting them know you appreciated their sharing time and their story. Students should then take this opportunity to ask the interviewee if they know any other people that might like to be interviewed. If a signed release form has not already been obtained, it needs to be completed before leaving the interview setting.

Send a thank you note as soon as possible to the interviewee. Tell them when they can expect to receive a copy of their interview recording, and any transcription that is planned. Be sure to follow through with providing them copies of their interview.

Additional Resources

Many resources are available to help anyone who wants to learn more about interviewing strategies and techniques, and how to manage the interviews once they have been collected. We have listed a few here to help you get started. Also check the resources in the Bibliography at the end of the

DS: “ I lobster fish in the summer time and I dive for sea urchins and scallops in the winter and I also go worming and clamming.”

—Interview with David Sargent, March 23, 2005. LFK Database: <http://www.voices.nmfs.noaa.gov>

handbook. Searching the internet is a good way to locate additional materials. We also recommend that you contact your local reference librarian, your local heritage or folklife center, and local historical museum. Discuss your project with their staff; they are very likely to be able to help you locate more materials, and can help you select the places that may be interested in receiving copies your interview collection when it is completed.

Charlton, Thomas L., Lois E. Myers, and Rebecca Sharpless, eds. *History of Oral History: Foundations and Methodology, Parts I and II*. Lanham, MD: AltaMira Press, 2007.

Gatto, Michael. Part One: Planning Your Project. *World War II, a Videotape Oral History Project. The History Channel Student Workbook*. No date. Available online at http://www.history.com/classroom/worldwarII/media/Part_One_Interview_Guide.pdf (accessed 1 January 2009).

Hunt, Marjorie. *The Smithsonian Folklife and Oral History Interviewing Guide*. Center for Folklife and Cultural Heritage. Washington, D.C.: Smithsonian Institution, 2003. Access online at <http://www.folklife.si.edu/resources/pdf/interviewingguide.pdf> (accessed 6 August 2008).

Lanman, Barry A. and Laura M. Wendling, eds. *Preparing the Next Generation of Oral Historians: An Anthology of Oral History Education*. Lanham, MD: AltaMira Press, 2006.

TRANSCRIBING INTERVIEWS



Why We Transcribe Interviews

Transcribing interviews allows anyone collecting oral histories to do detailed analysis of the interview. There is no better way for you or your students to master the content of any recorded interview. It is an excellent way for interviewers to find out if they need to do a follow up interview to answer questions raised but not answered during the first interview. If your group is planning to publish any of the information you have gathered, transcription of the interview is a necessary step.

Transcription does, however, require significant time investment and can be tedious. A rule of thumb for estimating the necessary time commitment to complete the transcription of an audio recording is approximately four hours of transcription time for each hour of interview time. The amount of time will vary depending on the complexity of the interview, the clarity of the recording, the transcriber's familiarity with the speech patterns including the dialects of the speakers. Transcribers usually get faster as they become more experienced, and as they become more familiar with the subject matter of interviews. Transcription should start as soon as possible after the interview is done.

The following discussion is focused on working with audio recordings, though it can also apply to the audio tracks of video recordings. Special techniques exist for the complex task of transcribing the interactional content of video recordings, and are not discussed in this handbook.

Before you or your students begin the work of transcription, be sure to make a copy of the original interview, and put the original recording in a safe place (see section on Archiving Interviews, page 81). Do all transcription work with copies. Never use the original recording for transcribing. If the original recording is a digital audio recording in WAV format, make the copy into an MP3 format file before you begin the work of transcription. These

files are much smaller and will be relatively easy to work with. Students will be familiar with this file format if they own MP3 players of any kind.

There are a number of transcription software choices including freeware that you can download from the internet. Find someone with up-to-date knowledge to help you select the appropriate software tool. The transcription software will allow you to listen through earphones or over computer speakers to the interview as it progresses. It will allow you to stop and start it, and it will also allow you to loop segments of the interview so you can continuously repeat sections until you get the exact phrasing as you type it out using a word processing program.

Transcribers must pay attention to detail, writing down the narrative in the exact words used by both the interviewee and those conducting the interview. This means transcribers must include local speech patterns, colloquialisms, and local dialect. Everyone uses lots of “uhs” and “ahs,” repeats, false starts, pauses, and so forth when they speak. All these need to be kept and indicated in the written version. There are useful guides that discuss these aspects of transcription in more detail. An example is Powers’ recent book *Transcription Techniques for the Spoken Word* (2005). Her suggestions for professional transcriptions for research purposes can be adapted for use by student transcribers.

Interview Logs

Interview logs help everyone who wants to locate specific interview content or information within a particular interview. If you don’t have a log to refer to, you will have to spend a great deal of time listening to the entire recording searching for the kinds of content that particularly interest you. It is relatively easy to create an interview log as you move through an interview identifying the topics that the interviewee discusses. To create an interview log, record the location on the tape or digital recording using either the counter that is part of all recording devices, or the transcription software, and note the location on the log, followed by the content using the content codes you have developed for your project. If you are going to donate a copy of your recording to the VFF Database, you will use the VFF Database content codes discussed below. We have included sample Audio and Video Recording and Photography Logs in Appendix H.

Content Coding Interviews

If your class decides you would like to add your interviews to the Voices from the Fisheries Database, which we hope you will do, you will need to content code the major topics of your interview. Topics and subtopics are listed in Table 3, pages 66-67 and on the Voices web site at http://www.voices.nmfs.noaa.gov/topics_list.html. These are used by the VFF Database search application to locate interviews that include those topics when someone selects them as part of a database search. This is the only way the search application can locate interviews that have content that matches what someone is looking for. We recommend that you or your group go through the interviews you have collected and write down the main topics discussed in the interview as soon as the interview is over. This will make it much easier if you decide later to place the interview on the database. During the LFK Pilot Project, one of the high schools took a copy of the list of topics to each interview that they conducted. One member of the interview team was assigned to check off topics as they emerged during the interview. This was an efficient way to do initial topic coding.

Content codes can also be used to help prepare students or others before interviews. They will help students learn to recognize the breadth of appropriate topics for fisheries and marine-focused interviews. For example, if a school is using an interdisciplinary approach to their project like Ellsworth High School did, all the topics and subtopics could be discussed in science, social science, history, and English classes before the interviews actually take place. This will help students understand how topics that may appear unrelated like a particular kind of marine habitat, the life cycle of a specific marine species, growing up in a fishing family, and informal in-group systems of justice among fishermen can all be interwoven in the same interview.

Prepare an Interview Abstract

An interview abstract is a short description of the main topics covered in an interview. These are usually no more than a paragraph in length. The VFF Database limits abstracts to no more than 4,000 characters, including spaces and punctuation. Most however, are much shorter. Below is an example of an interview abstract for an interview included in the VFF Database. You can see many other examples by searching the VFF Database for interviews.

Originally from Tennessee, Charles Pennycuff’s parents moved their family to Eastpoint in 1971. Since Charles first saw the bay at the age of seventeen, he has made his living from it. Over the years, Charles has done it all. He has shrimped, oystered, crabbed, and even grunted for worms. His son, Rex, worked the bay, too. Like a lot of folks, though, they wanted something more reliable. In 1993 Charles opened Fisherman’s Choice Bait & Tackle in Eastpoint. He has no employees, only his family. From this modest storefront, every fisherman, hunter, and seafood worker can get what he or she needs. From crickets to rubber boots, fishing poles to dog food, they’ve got it. And the nature of this kind of business is that it’s the center of all things bay-related. Locals stop in for bait, friends stop in to chat, and strangers get tips on good fishing holes. Even though the Pennycuffs don’t get on a boat to go to work anymore, they are still very much connected to the bay.

— Interview by Amy C. Evans for the Southern Foodways Alliance
www.southernfoodways.com Southern, part of the Southern Foodways Alliance Collection, accessed online at <http://www.voices.nmfs.noaa.gov/>.

Review and Approval of Interviews for School Projects

When interviews have been transcribed, teachers should then work with their students to reflect on how well they achieved their project’s goals, and how well the interviews relate to their project’s focus question or theme. The oral history rubric in Appendix I will help you evaluate this process. Also read the Handbook section on Assessing Outcomes (page 75). When establishing project rubrics, some teachers have found it useful to brainstorm with their class early in the project to identify what both they and their students think should be included in the rubric. This rubric can then be used to judge final student performance. This approach can increase student buy-in for the project and improve prospects that they will accept the evaluation process as fair and appropriate.

Send Preliminary Copies of Interview Transcripts to Interviewees to Review

We recommend that you send preliminary copies of interview transcriptions to the person interviewed to review for accuracy. Sometimes transcribers do not hear something accurately, and as a result errors, both minor and major, can be created in the transcribed version of the recorded interview.

Ask the interviewee to read through the transcript to see if there are errors. Also ask them to tell you if they agree that the transcription is an accurate representation of their interview. You will have to explain that you want

to keep the actual expressions and the way things were said in the written version; often interviewees want to edit transcripts so that they look more like “properly written” or grammatical speech. Try to persuade them not to do this. If the person cannot read the transcription, which sometimes happens, a relative or trusted friend may have to be persuaded to help them review the transcript. This is a good time to give them their own copy of the recording if you have not already done so; they may want to listen to it as they review the transcription.

Send Final Copies of Interview Recordings and Transcripts to Interviewees

Send copies of both the interview recording (if you have not already done so) and the final interview transcript (if you have prepared a transcript) to the person interviewed, or to their family if they have passed away. This should never be overlooked. After all, it is the interviewee’s intellectual property that they have chosen to donate for your use, and for the use of others to add to the record of human interaction with the marine environment. Both they and their family will appreciate that you have kept the commitment you made at the beginning of your project to provide each interviewee with a copy of their own interview.

Additional Resources

These books are current and they contain detailed, useful information on all aspects of transcribing and documenting your recordings. They include several appendices that provide sample forms of all kinds.

Powers, Willow Roberts. *Transcription Techniques for the Spoken Word*. Lanham, MD: AltaMira Press, 2005.

Yow, Valerie Raleigh. Chap. 11 Conclusion of the Project, p. 311-324. *Recording Oral History*, 2nd ed. Lanham, MD: AltaMira Press, 2005.

Table 3: Topics Used To Code Each Interview for Content When an
 The bolded words are the major topic categories; sub-topics are listed following each major category.

Role

Commercial fisherman (captain/crew)
 Recreational fishermen (charter, guide, party boat operator/crew)
 Recreational fisherman -angler
 Subsistence fisherman/harvester
 Dealer/wholesaler
 Processor owner/operator/worker
 Shoreside business owner/operator
 Tourism operator
 Manager/ Policymaker
 Fisheries biologist (all kinds)
 Social scientist (all kinds)
 Other scientist
 Family member
 Community leader
 General public
 Other role

Gear & Fishing Technology

Pots and traps
 Gill net, trammel net
 Seine
 Weir
 Trawl
 Hook and line
 Dredge
 Tongs, rakes, scrapes
 Spears, harpoons
 Boats, ships, vessels
 Other gear / technology

Social & Cultural Characteristics of Fishing

Socialization/training to be a fisherman
 Life aboard a fishing vessel
 Relationships with other fishermen
 Fishing territories
 Informal rules and regulations
 Informal allocation systems
 Informal ingroup/intergroup justice
 Safety practices and beliefs
 Other fishing social/cultural

General Social & Cultural

Characteristics

Gender roles
 Family, family roles, family organization
 Social networks (family, friends, neighbors, co-workers)
 Community structure and organization
 Sources of prestige, rank, status
 Social stratification
 Ethnicity, ethnic identity
 Education (schools, other resources)
 Health care resources, practices
 Foodways and practices
 Values
 Beliefs and belief systems (religion, health, and other)
 Festivals, ceremonies, tournaments
 Leisure time activities (includes recreation, entertainment, sports)
 Music and dance
 Arts and crafts
 Language, terminology/vocabulary/folk taxonomy
 Place names
 Other general social/cultural

Business and Economics of Fishing & Other Maritime

Making a living
 Seasonal round of fishing
 Family involvement
 Business organization
 Costs/operating expenses
 Earnings/Revenue/Profitability
 Business risks
 Financing and investment (short- and long-term)
 Competition (domestic and foreign)
 Shoreside support services (docks, repair, etc.)
 Obtaining supplies (fuel, bait, ice, gear, etc)
 Selling/marketing the catch
 Fish processing/processor employment
 Business and economic effects of regulations
 Contributions to local economy

Interview is Uploaded to the Voices from the Fisheries Database

These topics can be used to search the database to find interviews that contain related content.

- Importance to local community/region
- Off-season occupations and activities
- Retirement
- Ports, harbors, marinas
- Ship construction, shipbuilding
- Aquaculture
- Seafood safety
- Seafood Retail (e.g., restaurants, services)
- Tourism, ecotourism
- Other business/economics/maritime

Fisheries Management

- Management legislation
- Management institutions
- Management approaches/practices
- Co-management, community-based management
- Regulations
- Permits/Licenses
- Bycatch
- Conservation measures
- Invasive species
- Endangered, protected or threatened species
- Marine Protected Areas
- Technical assistance
- Enforcement
- Observers
- International treaties and agreements
- Other fisheries management

Habitat & Other Environmental

- Characteristics**
- Environmental change
- Unusual environmental phenomena or events
- Weather
- Climate, climate change
- Currents, tides
- Water quality
- Habitat
- Ocean habitat
- Fresh water habitat
- Coastal zone habitat
- Aquatic ecosystems
- Fishing banks
- Other habitat/environmental

Species Type

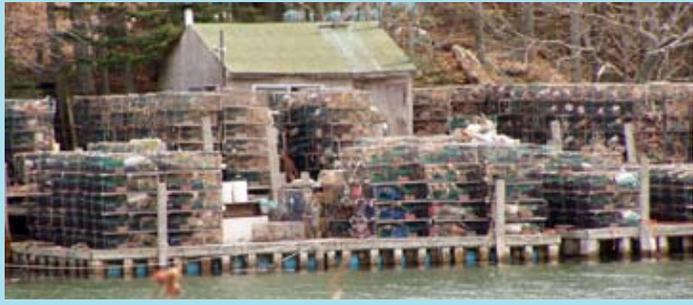
- Fish - General
- Salmon (all kinds)
- Groundfish (e.g., rockfish, cod, haddock, halibut, sole)
- Highly migratory species (e.g., tuna, Billfish/swordfish, dorado/mahi-mahi)
- Coastal pelagic species (e.g., anchovy, herring, mackerel) sharks, skates, rays
- Lobster, crab, shrimp
- Shellfish (e.g., scallops, mussels, clams, oysters)
- Sea urchins, sea cucumbers, sea stars
- Squid, octopus
- Jellyfish
- Sea turtles
- Marine mammals
- Sea birds, shore birds
- Seaweed and algae
- Corals, sponges
- Worms
- Local and scientific species names
- Other species type

Species Characteristics

- Current population, stock size
- Historic population, stock size
- Current distribution, range
- Historic distribution, range
- Migration routes and seasonal patterns
- Spawning areas, breeding grounds
- Nursery areas
- Life cycle stages (e.g., egg, larvae, juvenile, adult)
- Behavior
- Species interactions
- Extinct species, extinction
- Unusual species characteristics, abnormalities
- Other

Other

ARCHIVING INTERVIEWS & RELATED DOCUMENTS



After completing a marine oral history project (or any oral history project for that matter), preserving the material so others benefit from it becomes a central consideration. Giving a copy to the person who was interviewed is something every oral history interviewer is ethically bound to do; it is the first step. If all you do then is safely store the original in your file cabinet or on the top shelf of your closet, you will ensure that only a very limited circle will ever hear the recording or read the transcript.

There are alternatives that better insure that the voices of your interviewees, their experiences and perspectives, will be preserved so that they benefit the wider society. The technical aspects related to the kind of equipment and media used to record the original interview that affect long-term preservation were already touched on in the previous section on recording and transcribing interviews. This section focuses on locating appropriate institutional homes for archiving oral history recordings and transcriptions that ensure that the oral histories will become accessible to a wider audience. By donating copies of your oral history recordings and transcriptions to one or more public institutions, you improve their chance for long-term preservation, thus enabling future generations access. Professional archivists suggest that long-term preservation is best assured if oral history materials are replicated and copies are placed in three different repositories or archives. While this may not be realistic for everyone's collection, it makes the point that redundant archiving improves the chances that an oral history collection will be available to the public for a long time.

We strongly urge careful consideration of several possibilities, and we urge you to contact more than one potential repository to find the ones that are best for your collection. This list is not intended to be exhaustive, nor is it intended as an endorsement of any institutional archive or repository. We have tried to point out different archival possibilities to stimulate you to search out those in your own local area, state, and region. Some may suit

your needs better than others. The internet is an excellent place to begin your search.

Ask anyone you contact for suggestions about others whom you can contact who may be interested in receiving copies of your oral histories. Librarians and others who operate libraries and other institutional archives can often help you locate the information you seek.

Finally, we recommend you put some thought into identifying the institutions to which you want to donate copies of the oral histories you intend to collect before you begin collecting them. It will be worth your time to contact them in advance to find out what kind of release forms they will require to accept oral histories, whether they want interview logs to be created, and what kind of media they prefer for oral histories. Knowing their requirements before you begin collecting interviews means you can begin collecting the oral histories knowing that you will avoid the disappointment of learning too late that you don't have what the archive requires to be able to accept a collection.

Local and State Libraries and Archives

Local libraries include school, city, and county libraries. Although these libraries may have limited resources available for archiving materials, they may welcome copies of oral histories that are focused on the local area on CDs or paper copies of interview transcriptions.

If your project is part of a school or classroom project, the school librarian should be asked about placing copies in the school library. If the school has a website they may want to put MP3 files of the interviews on it to highlight the project. That is what Ellsworth High School in Maine did with some of the oral histories recorded by their 10th grade students as part of the LFK Pilot Project.

State libraries and archives are devoted to both past and recent state history. They are another archiving resource to contact about oral histories related to your state. A U.S. State Historical Societies and State Archives Directory is accessible on the internet (see <http://web.syr.edu/~jryan/infopro/hs.html>, accessed 31 October 2008).

University and College Libraries

University and college libraries often house special collections departments or units that archive oral histories related to the state or region where the schools are located. Two examples that illustrate this are the University of Alaska-Fairbanks Elmer E. Rasmuson Library's Polar and Arctic Regions Collections (see <http://library.uaf.edu/apr>, accessed 31 October 2008), and the University of Louisiana's T. Harry Williams's Center for Oral History (see <http://www.lib.lsu.edu/special/Williams/>, accessed 31 October 2008), and there are many others. Search the internet to find more. They can be a valuable resource because they have professional staff who can advise you, and they often have useful documents that you can download at no charge, e.g., the University of Louisiana's site provides links to classroom curriculum, release forms, and a sample budget for an oral history project.

Local and State Historical Societies

Many local communities have historical societies, as do most states. These organizations can be excellent resources to contact about your oral history collection. State libraries and archives are devoted to both past and recent state history. The U.S. State Historical Societies and State Archives Directory cited previously lists internet sites for all U.S. state historical societies (see <http://web.syr.edu/~jryan/infopro/hs.html>, accessed 31 October 2008).

State, Regional, and National Folklife Centers

Many state and regional folklife centers are located on state university campuses, e.g., the Maine Folklife Center located on the campus of the University of Maine at Orono (see <http://www.umaine.edu/folklife/default.htm>, accessed 31 October 2008). Folklife centers may maintain oral history collections in their own archives, or in cooperation with the university's special collections department in the university's library. An internet search will help you find out if one exists in your state or region.

At the national level, the Smithsonian Institution's Center for Folklife and Culture provides useful resources including their well-known Smithsonian Folklife and Oral History Interviewing Guide (Hunt, 2003). Also see <http://www.folklife.si.edu/index.html>, (accessed 31 October 2008). The Center maintains the Ralph Rinzler Folklife Archives and Collections among its many other activities.

Another excellent resource is the Library of Congress's American Folklife Center website that can be accessed at <http://www.loc.gov/folklife/> (accessed 31 October 2008). This site also provides many useful guides and other information, and also archives oral histories of interest to their collection priorities.

NOAA VOICES
FROM THE FISHERIES
DATABASE
ARCHIVE



The NOAA Voices from the Fisheries Database (VFF DB) is a powerful resource available to the public to inform, educate, and provide primary information for all who are interested in our local, human experience with the surrounding marine environment. The VFF DB is an electronic tool that is a public, searchable, central repository for consolidating, archiving, and retrieving oral history interviews related to commercial, recreational, and subsistence fishing in the United States and its territories. It is available to everyone through the internet at <http://www.voices.nmfs.noaa.gov>. The Voices from the Fisheries Database is becoming a 'one stop shop' for those interested in the human connection with our marine and aquatic environments, and our living marine resources

Interviews with people both directly and indirectly involved in marine and Great Lakes fishing and fishing-related activities, as well as in other marine-related activities are being sought for inclusion on the VFF DB. The VFF DB supports diverse users including NOAA Fisheries (NMFS) staff, non-NOAA scientists and managers, educators, students, and the general public. The VFF DB Project has located dozens of existing marine fisheries oral history collections containing more than 4000 individual oral histories collected over several decades. A portion of these existing documents will eventually become available to a global audience as they are added to the VFF DB.

Original project partners include the Working Waterfronts Festival in New Bedford, Massachusetts; Bonnie McCay, Department of Human Ecology, Rutgers University; and Madeleine Hall-Arber, MIT Sea Grant. Long Island Traditions, Port Washington, New York



Women working in a processing factory,
mid-Twentieth Century.
Photo: NOAA Photo Archive

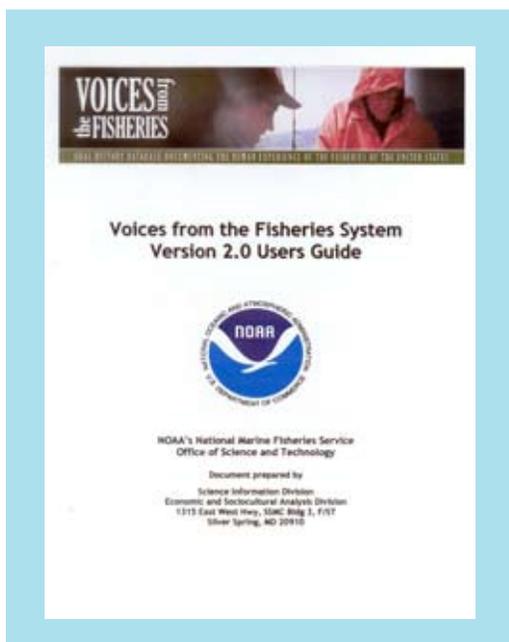
(www.longislandtraditions.org) and The Southern Food Alliance, Oxford, Mississippi (<http://www.southernfoodways.com/>) have recently become participating partners by adding interviews from their collections to the VFF DB. Each institution that provides access to their collections through the VFF DB is critically important to the overall success of this initiative.

The VFF DB replaces the original Local Fisheries Knowledge Database developed to support the LFK Pilot Project during the period 2003-2005; that database has been decommissioned and the LFK interviews are now available on the VFF DB.

Oral history interviews included in the VFF DB's growing collection are being conducted and donated by the public, by students and their teachers as part of classroom projects, and by professional researchers. To find out if the marine-related oral histories you have already collected, or are planning to collect, are appropriate for the VFF DB, go to the VFF DB web site at <http://www.voices.nmfs.noaa.gov>. Once you are on the Voices from the Fisheries home page, locate and click on the "How to Participate" button. This will take you to the web site page that describes how to contact the VFF DB administrator. You will be asked to fill out a short, downloadable form (see Appendix J), fill it out, and email it to the VFF DB administrator at Voices@noaa.gov. The VFF administrator will review your project. If it is appropriate, you will receive a login and password by email so you can upload your oral histories to the VFF DB.

The VFF DB accepts marine-related oral history interviews in two file formats--MP3 digital audio files and PDF files. Photographs can be embedded in text files and submitted as PDF files. When Phase 2 of the VFF DB is completed in mid-2009, digital video file capability will be added to the database.

A Voices from the Fisheries Database Users Guide is available for download from the VFF web site. If you would like to get more information on what the upload process is for MP3 or PDF interview files, access the *Users Guide* at https://www.st.nmfs.noaa.gov/vff/html/VFF2.0_User_Guide.pdf.



ASSESSING OUTCOMES



Complex work in schools and communities involving application of skills and knowledge to solve important community issues requires thoughtfully constructed assessment methods in order to make a powerful case for learning in the community. When you think about assessing your project, it may at first feel overwhelming. After all, you are developing a complex project that connects different audiences: schools, community, students. The information in this section is an attempt to help you think through the assessment process and highlight useful tools. We offer two different lenses to evaluate the outcomes of a LFK project: 1) evaluation tools to measure the effectiveness of the project or program and 2) strategies for assessing individual student learning outcomes. Before you begin designing your project, you must identify the “enduring understandings” you want your students to develop (Wiggins & McTighe, 2001); begin with the end in mind. The steps of the model are: 1) Identify learning outcomes; 2) Determine acceptable evidence; and 3) plan learning experiences and instruction.

Program Evaluation

Evaluation of a LFK project should be based on the goals and expected outcomes for the respective partners: schools, students, marine-based organizations, and community. In the case of Maine’s LFK Pilot Project, the goals included:

1) Student Learning and Engagement

- Increased student engagement in learning
- Acquisition of new skills: literacy, technology, project planning
- Higher aspirations for higher education
- Improvements in teacher practice

2) School – Community Relationship

- New connections between students, school, and community

3) NOAA Fisheries

- Improved relationships between local fishing communities and NOAA Fisheries
- Expanded awareness of careers in marine science, management, and policy
- Increased environment literacy (marine and coastal environments)

Project Evaluation Tool Options

1) Rural School and Community Trust Assessment System (See Appendix K: PBAS Quick Reference Guide)

To assess and understand the critical features of place-based education efforts, the Rural Trust, in partnership with the Harvard Graduate School of Education, developed an assessment system that integrates a number of separate goals and processes not currently addressed in state and national standardized assessments, but critical for improving teaching and learning (Rural School and Community Trust, 2003). These include connecting schools and communities, pairing intellectual content knowledge with real world applications, measuring the full impact of learning inside and outside the school, and using the evidence these strategies yield for program improvement. The Assessment System is designed around three complementary themes and related aspects with corresponding rubrics to assess the work of students, teachers, and community members:

I. Student Learning and Contributions measures the impact of the project on student learning that is rigorous, relevant, connected to the community and reflective of student voice and leadership. Rubrics measure how the work results in acquisition of critical thinking skills and deeper learning about important content.

II. Community Learning and Empowerment focuses on what the community has gained and how the work builds access, communication, and trust between schools, students, and community groups

III. Deepening and Spreading Place-Based Learning examines whether place-based approaches have become sustainable in the school and the community.

Collecting Evidence

Project participants are expected to collect evidence that affirms

the impact of the LFK Pilot Project and is directly connected to the three themes and various aspects listed above. Types of evidence include:

- Work products by student or community members
- Student reflections and concept maps - to illustrate learning growth and the learning process, as well as student contributions to the project design and implementation
- Parent/Community reflections - to illustrate adults' role in the project, as well as their perceptions of the project's effectiveness in facilitating student learning
- Evidence of dialogue that occurred between teacher and student (or between student and student, or community member and student, etc.) about the project and/or the student work (documented via a short transcription, audiotape, or videotape)
- Survey forms or other instruments—and resulting data—used by students to make decisions about the course of the project
- Short, tightly edited video or audio clips that document an important aspect of the project and/or the voices and reflections of participants
- Summaries of interviews and/or focus groups with students, parents, and community members
- Public documents, such as news articles
- Tests and examples of mastery of standards
- PowerPoint presentations/websites/email, especially those created by students in the course of the project

Rubrics are used as guidelines for rating progress or measuring developmental growth. They describe performance on a range of pertinent attributes according to different levels of performance.

2) Pre-post questionnaire that documents prior and subsequent knowledge and attitudes about fishing knowledge, marine careers, and student aspirations (see Appendix B).

3) Surveys, observations, interviews and/or focus groups to show the real



LFK Pilot Project Resource Committee meeting with Jonesport/Beals HS staff, students, and community members during the early days of the project in April 2003.
Photo: Susan Abbott-Jamieson

value of students' interviews and other work to the community.

4) A Logic Model that shows the relationship between the resources (inputs-outputs) you have to operate your program, the activities you plan to do, and the changes or outcomes you hope to achieve (short-intermediate-long term). A logic model provides a picture of how your project will work.

5) Observations, participation in project activities, and interview anecdotes can be used to measure improved relationships between local fishing communities and NOAA Fisheries. Awareness that NOAA was interested and valued the community's rich fishing knowledge changed many local community members' attitudes. Susan Abbott-Jamieson's willingness to support the project through attendance at public meetings, creation of a national database to store local information, and support in applying for a Preserve America grant were significant

NOTE: While Changes in Teacher Practice was not one of the outcomes formally measured in the LFK Pilot Project, it definitely is a variable to consider in designing other projects. Because teachers are a primary agent of change, it is important to understand the ways in which teachers change their teaching approaches as a result of LFK projects. Interviews and observation data can show such impacts as:

- Use of local places and resources as contexts for learning and student engagement
- Interdisciplinary teaching
- Increased collaboration with other teachers
- Partnerships with community members and organizations
- Stronger curriculum planning skills and use of technology

Assessing Student Learning

When students are engaged in authentic place-based learning activities, it is important that we provide a variety of ways to show what they are learning. Because of the many ways students demonstrate their knowledge and skills—writing, speaking, researching, performing, presenting—it is difficult to specify a single assessment tool that works in every learning setting. Using a variety of standardized and performance-based assessment tools provides a more complete picture of students' acquisition of knowledge and skills, and growth as contributing members of a community.

Skills and knowledge to be assessed include:

- 21st Century Learning Skills (Partnership for 21st Century Skills, 2004); specifically critical thinking, collaborative problem solving, information and communication technology, and literacy skills
- Connections to Standards: Collecting rich evidence from a variety of sources that students are meeting state standards
- Comprehension of concepts and content knowledge

21st Century Skills

A number of reports have been compiled over the past decade by business and education leaders focusing on the skills and knowledge today's students need to flourish in an increasingly global, technology-rich society. These skills include higher-order thinking; social and personal skills; information, media and technology literacy; innovation and creativity. Integrating these skills into teaching, standards and assessment is “an economic imperative, driven by changes in the workforce and a vital aspect of improving student learning (Partnership for 21st Century Skills, 2004).

Many of these 21st Century skills are reinforced in place-based initiatives like the LFK Pilot Project. Information, technology and communication skills were reinforced through activities such as digital recording and digital photography, use of scanners, editing of digital and audio tape recordings, use of software transcribe interviews and entering data onto the NOAA database, and the ability to combine these skills for presentations.

Connections to Standards

While many standards are addressed in the course of an LFK project, it is best if teachers in different disciplines chose a few key content standards they want students to focus on and assess.

In addition, most states have adopted “guiding principles” that apply throughout the curriculum. These principles relate to students’ ability to communicate, reason, investigate and solve problems. They also can include standards of personal development, civic and social responsibility. (Appendix L: Guilford School Oral History Standards)

Student Presentations & Performances

Multimedia presentations provide students an opportunity to share what they know with families, faculty, students, and community members as they combine text, graphics, video, sound, and even animation. At different end points in the project, culminating presentations, performances or exhibitions that include students' reflections on what they have learned about academic content, their community's marine environment, and themselves, can provide a formative or summative assessment opportunity.

In the case of the LFK Pilot Project, oral presentations were scored by educators against an analytic rubric based on ideas and content, organization, language, and delivery. The assessment rubric was most closely aligned with the English Language Arts content standard related to the stylistic and rhetorical aspects of speaking, including the ability to "explore ideas, to present line of thought, to represent and reflect on human experience, and to communicate feelings, knowledge, and opinions."

OTHER COAST MARINE PROJECTS IN THE U.S. & BEYOND



NOAA Projects

Some NOAA Preserve American Initiative Grant (PAIG) Projects include:

Documenting Traditional Knowledge of Marine Use and Resource Management in American Samoa

This project will document traditional knowledge of marine use and resource management in American Samoa through the assimilation of oral histories of traditional fishing and resource management methods with elders from American Samoan coastal villages. This knowledge and information will be used to improve outreach materials and policy and management programs with partner agencies. Project Lead: Arielle Levine, Pacific Islands Fisheries Science Center, NOAA Fisheries. Contact: Arielle.Levine@noaa.gov.

Gathering, Preserving, and Sharing Traditional Fisheries Knowledge from Down East Communities in North Carolina

This project will document, preserve, and interpret traditional work practices and knowledge in the Down East communities of Carteret County, North Carolina. Products will be heritage tours and interractional educational exhibits that preserve and showcase these heritage assets. Project Lead: Gretchen Bath Martin, Southeast Fisheries Science Center, Beaufort Laboratory, Beaufort, South Carolina. Contact: Gretchen.Bath.Martin@noaa.gov.

Voices of the Bay: A Voyage of Science, Community, and Heritage through Local Fisheries Knowledge

This project develops a place-based curriculum, lesson plans, and activities that use local fisheries as the context for learning about the marine environment, the ecological and human dimensions of marine resource use, and its management. The overall project will expose students to the rich fishing history of the Monterey Bay area. Partners include NOAA Southwest Fisheries Science Center (NOAA-SWFSC), Monterey County

Office of Education (MCOE), Monterey Maritime and History Museum (MMHM), and the Friends of Moss Landing Marine Laboratories (FoMLML). Project Lead: Seaberry Nachbar, NOAA National Marine Sanctuary Program, NOAA National Ocean Service, Monterey Bay, California. Contact: Seaberry.Nachbar@noaa.gov

Catching the Fishing History of Lake Michigan, 1871-2006

This project supports new research on the 1870-1940 period documenting the living history of the fishery in the Leelanau Peninsula/Manitou Islands through interviews with surviving tribal and non-tribal fishermen, fishery biologists, and other local residents. Partners include Michigan Sea Grant and the Fishtown Preservation Society Project. Lead: Peter Fricke, Office of Sustainable Fisheries, NOAA Fisheries, Silver Spring, Maryland. Contact: Peter.Fricke@noaa.gov.

Inupiat Cultural Preservation, Kotzebue Sound, Alaska

This project partners with Ilinniagvik Attautchikun, a local Inupiat cultural preservation organization, to document and preserve knowledge of historic marine resource usage and traditional harvest methods and equipment in Alaska's Northwest Arctic. Elders in four coastal villages of Kotzebue Sound--Kotzebue, Buckland, Kivalina, and Deering--are documenting on video the ecological history of marine resources in the area and traditional Inupiaq hunting and fishing methods. Oogruk (the bearded seal) is the most important local resource, along with ringed seals, beluga, walrus, fish, and shellfish. Elder's observations of ecological changes in the region are being recorded as unique source of environmental history. Project results will eventually be included in the NOAA Arctic Theme Page website (<http://www.arctic.noaa.gov>) and the NOAA Voices from the Fisheries Database (<http://www.voices.nmfs.noaa.gov>). Contact: Jennifer.Sepez@noaa.gov.

Some NOAA Fisheries Service (NMFS) funded projects include:

Oral Histories of Fishermen's Wives in New England

Oral histories focused on fishermen's wives are being collected in the coastal areas of New England. Many fishermen's wives participate in their family's commercial fishing business by handling shoreside aspects of the business, and by participating in voluntary associations supporting commercial fishermen and their families. Others have worked in the fish processing plants in these areas. These oral histories help document gender roles in fisheries work and lifeways, the role of women in fishing communities,

and the potential impact of fisheries regulations on fishing families and communities. Interviews are being conducted in fishing communities in Maine, Massachusetts, and Rhode Island. Contact: Lisa.L.Colburn@noaa.gov.

Oral Histories of Portuguese Descent Fishermen and Their Families in Massachusetts

Some fishing communities are home to significant populations with distinctive ethnicity who are non-native English speakers. New Bedford, Massachusetts has a rich ethnic mix that includes Portuguese, Norwegians, and newcomers like the Guatemalans who work in fish processing. Oral history interviews are being conducted among these populations in New Bedford to ensure that their voices are heard. This work also relates to Executive Order 12898 Environmental Justice requirements that regulatory impacts on potentially vulnerable populations be identified. Contact: Patricia.Pinto.Da.Silva@noaa.gov.

Other Projects

CREST (Community for Rural Education Stewardship and Technology)

CREST is a five year project at the Island Institute funded by the National Science Foundation (NSF), that uses place-based education to provide students and teachers from 16 island and coastal schools opportunities for hands-on technology education and career awareness in information technology fields.

Partners include the Island Institute, University of Maine at Machias, Bowdoin College and remote island and coastal schools, forming a community of students, teachers and professionals with heightened database development, GIS mapping, and ethnographic research skills. By applying these skills within the resource stewardship context CREST builds capacity for participation in stewardship and information economies among students while providing teachers and professionals with skills that could immediately diversify the local economy. Oral history interviewing of island residents, many of whom are fishermen, is part of the students' mix of activities. Online at <http://www.crest.islandinstitute.org> (accessed 26 January 2009)

Virgin Islands (VI) Aquatic Heritage Project

Customs and Traditions Harvested from Our Seas. VI Aquatic Heritage

Project, launched in 2007. It is funded through the U.S. Department of Interior/Fish and Wildlife Service. The project's goals include preserving and disseminating the Virgin Islands' rich history of involvement with its surrounding aquatic environment, while highlighting the part the fishing industry has played in the culture of the Virgin Islands. Modeled on NOAA Fisheries' Local Fisheries Knowledge Pilot Project in Maine, the Aquatic Heritage Project trains students to interview veteran fishermen to learn about their islands' fishing history. Partners in the grant include the VI Cultural Heritage Institute, the Office of Cultural Education at the Department of Education, VI Council on the Arts, schools on St. Thomas, St. Croix, and St. John, and the Fish and Wildlife Division at the Department of Planning.

Great Lakes Fisheries Trust (GLFT) Great Lakes Stewardship Initiative

The goal of the GLFT's Great Lakes Stewardship grant category is to increase awareness and understanding of the ecology of the Great Lakes so that Michigan's residents become (1) active and effective stewards of the Great Lakes, and (2) advocates for strategies that support the long-term sustainability of the Great Lakes fisheries. This goal is being achieved primarily through the Great Lakes Stewardship Initiative (GLSI), which the GLFT has launched with the support of the Wege Foundation and with the advice and counsel of an Advisory Group and Funders' Collaborative. The GLSI supports a proven method of community-based learning in K–12 classrooms across Michigan. In project schools, the local environment provides the context for education: students learn academic content while studying issues or problems of local importance. This approach builds students' enthusiasm for learning and results in higher academic achievement. Online at <http://www.glstewardship.org/about.html> (accessed 26 January 2009).

APPENDICES

Appendix A

Local Fisheries Knowledge Pilot Project Committee 2003-2005

Susan Abbott-Jamieson, Ph.D.

Susan Abbott-Jamieson, an anthropologist, is the Senior Social Scientist in the Office of Science and Technology, NOAA Fisheries Service Headquarters. She is leading the development of NOAA Fisheries Service's expanding social science program. The program will improve the agency's ability to meet its mission-related social science research requirements. Prior to joining NOAA in early 2002, she was a faculty member in the Department of Anthropology at the University of Kentucky. Previous research focused on rural horticulturalists in Kenya, and children and families in eastern Kentucky coal mining communities. Susan is the Project Manager for the Local Fisheries Knowledge Project.

James Acheson, Ph.D.

James Acheson is Professor of Anthropology and Marine Sciences at the University of Maine. He has done extensive fieldwork in fishing communities in Maine on the social science aspects of fisheries management. He has written several books including *The Lobster Gangs of Maine* and *Capturing the Commons*, and is a noted scholar of regional and national marine fisheries issues.

Ordman "Skipper" Alley, Jr.

Ordman Alley, Jr. (nickname Skip) is a local lobsterman and lifelong resident of Beals, Maine. He graduated in the top ten of his class from Jonesport-Beals High School in 1986. During school he was a member of the National Honor Society as well as an athlete who played varsity soccer, baseball, golf, and basketball. Skip went on to earn his bachelor's degree in Marketing/Management and continued to play basketball at the college level. Currently, he is married with three children and is an active community member. He has been a T-ball coach for three years, a Little League coach for one year, a Boy Scout leader for six years, and a member of the School Board for seven years. Skip owns his own 35-foot lobster boat, the 'Britt and Matt', and a full gang of wire traps. He also owns a lobster pound with his father.

Julie Bartsch

Julie Bartsch is an education consultant, providing training and technical assistance to a number of educational organizations. She currently works with the Rural School and Community Trust as a Regional Steward in the Northeast. Julie has served in a number of roles in public education: teacher, K-12 administrator, college faculty/administrator, school board member, and consultant. Her career in education has focused on her commitment to forging partnerships between K-12 schools, higher education institutions and community, including creating the National Institute for School/Community Collaboration while a Fellow at Tufts University. Julie holds advanced graduate degrees in management and education from Lesley University and the Harvard School of Education. While at the Harvard School of Education, she worked on the development of a School Leadership Academy and an annual institute on "Innovations in Literacy, Learning and Assessment." She recently published *Community Lessons - a collection*

of promising curricular practices in community and place-based learning.

Lisa L. Colburn, Ph.D.

Lisa Colburn received her Ph.D. in Anthropology from the University of Connecticut. Lisa is now a Social Scientist for NOAA Fisheries, Northeast Fisheries Science Center, located in Woods Hole, Massachusetts. She has conducted applied research in coastal communities in New England and Madagascar. Her earlier research included nutritional practices in Nepal. Lisa is currently writing and reviewing social impact assessments for fisheries management plans and conducts basic research on fishing communities in New England. Other research interests include the importance of social networks in household and community adaptation to social change (e.g., implementation of fisheries management regulations).

Jennifer Isé

Jennifer Isé is the Assistant Project Manager for the Local Fisheries Knowledge Pilot Project. Jennifer graduated from the University of Washington in 2001 with a Master's Degree in Marine Affairs. Her thesis work explored motivations of rural landowners to voluntarily adopt conservation-oriented land management practices and their attitudes and perceptions about working with government to receive technical and financial assistance for such practices. Upon graduation she moved to Washington D.C. to work for the National Estuarine Research Reserve System within the National Oceanic and Atmospheric Administration. She is currently on rotation at NOAA Fisheries, Office of Science and Technology, to work on the Local Fisheries Knowledge Project.

Michael Kimball, Ph.D.

Michael Kimball is an assistant professor of anthropology at the University of Maine-Machias (Ph.D. 1998, Anthropology, UW-Madison). His research focuses on prehistoric maritime fishing societies and cultural change. In addition to his archaeological investigations, he is also working on contemporary cultural issues linked to the coastal communities of Washington County, Maine.

Virginia Nazarea, Ph.D.

Virginia D. Nazarea is a Professor of Anthropology at the University of Georgia and Director of the Ethnoecology/Biodiversity Laboratory. Her research interests are in the areas of local knowledge, agricultural and natural resources decision-making, and cultural and biological diversity. She has done fieldwork in the Philippines, Ecuador, and Southern USA. Her publications include *Local Knowledge and Agricultural Decision Making in the Philippines: Class, Gender, and Resistance* (1995), *Cultural Memory and Biodiversity* (1998), and *Ethnoecology: Situated Knowledge/Located Lives* (ed., 1999). With her students, she has also published a protocol, *Yesterday's Ways, Tomorrow's Treasures: Heirloom Plants and Memory Banking* (1997 in English, forthcoming in Spanish).

Paul Rago, Ph.D.

Paul Rago is a fisheries research biologist with NOAA Fisheries in Woods Hole, Massachusetts where he leads a group on fishery stock assessment methods. He received his Ph.D. from the University of Michigan in 1986. Before coming to NOAA Fisheries, he was Research Coordinator for the Emergency Striped Bass Study for the U.S. Fish and Wildlife Service. Dr. Rago has been actively involved in the design, implementation, and analysis of a number of projects involving the use of fishermen's data in stock assessment. These projects have included studies with the surfclam-ocean quahog, sea scallop, and monkfish fisheries. In 2000, Dr. Rago helped organize and chaired an international symposium on the use of fishermen's information in stock assessment in Brugge, Belgium for the International Council for the Exploration of the Sea. Over the past several years, Rago has been actively involved in a number of training activities for at-sea observers, graduate students, and fishermen.

Jennifer Sepez, Ph.D.

Jennifer Sepez is an anthropologist at NOAA Fisheries' Alaska Fisheries Science Center and an affiliate Assistant Professor of Anthropology at the University of Washington. Previously, she was an editorial assistant at the Journal of Ethnobiology and has worked on traditional ecological knowledge projects with the Makah Tribe in Washington, with Zapotec communities in Mexico, with Aleut and Alutiiq peoples in Alaska. She also spent three seasons cutting fish at an Alaskan fish processor and three years conducting commercial fisheries research for the Alaska Department of Fish and Game.

Ted Ames

Ted Ames is a Maine lobsterman, a former groundfish fisherman, and a scientist. He lives in Stonington, Maine. Ted Ames is author of a study on historic cod stocks in the Gulf of Maine. He interviewed many retired former cod fisherman about historic cod habitat that he then compared to data collected by fisheries biologists in the Gulf of Maine. He is the recipient of a 2005 MacArthur "Genius" grant. He serves as a resource person for Ellsworth High School.

Jim Roberts

Jim Roberts is the Local Project Coordinator, located in Beals, Maine, for the Local Fisheries Knowledge Pilot Project. He works with the Rural School and Community Trust and is the Curriculum Developer for the Washington County Consortium, in Machias, Maine. Jim is a graduate of the University of Maine at Orono, School of Forest Resources. He was born and raised in Eastport, Maine; the easterly most located city in the U.S. Jim was a classroom teacher for the past 11 years and then went to work for Maine Medical Center's Department of Vocational Services. In that capacity he was involved in collaborative efforts to establish community / education partnerships and transition activities for youth in Hancock and Washington County schools. Prior to his work in education, Jim was employed as an Atlantic salmon research biologist and later as an aquaculture site manager in down-east and mid-coast Maine.

Appendix B

LFK Project Student Questionnaire

STUDENT NAME: _____

SCHOOL: Jonesport-Beals High School
 Ellsworth High School

GRADE: 9th 10th
 11th 12th

Your school participated in the Local Fisheries Knowledge (LFK) Pilot Project last year, and will continue to participate during the 2004/2005 school year. We are collecting this information so we can learn about your experiences with the LFK Project during the 2004/2005 school year.

PLEASE ANSWER THE FOLLOWING QUESTIONS.

1. Thinking about what you know right now, write an X at the place on the line that best describes what you know about each item (0 means you know nothing about it, while 7 means you know a lot about it).

	ITEM
1.1	The life of a fisherman <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.2	The fishing industry in the area where you live <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.3	The fishing industry in the U.S.A. <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.4	The connections between your community's economy and the fishing industry in earlier times <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.5	The connections between your community's economy and the fishing industry today <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.6	How the fishing industry has influenced your community's culture and way of life <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.7	How the health and quality of the marine environment (e.g., water, sediments, marine animals, marine plants etc.) affects the fishing industry <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>
1.8	How the fishing industry affects the health and quality of the marine environment (e.g., water, sediments, marine animals, marine plants, etc.) <div style="text-align: center;">0 ___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___</div> <div style="display: flex; justify-content: space-between;">Know NothingKnow A Lot</div>

2. Thinking about your experience so far with the Local Fisheries Knowledge Project, is there anything else that you have learned more about? Write down what that is and explain how the project helps you learn about it. You can write as many things as you want to. You can write on the other side of the page if you want to.
-
-
-

3. Do you think you could be interested in any of these careers in the future? (Put a check mark in the boxes that best show your career interests)

	CAREER	ANSWER			
		NO	MAYBE	YES	I was interested before the project started
3.1	Commercial fishing				
3.2	Commercial fishing support industry (e.g., fishing supply store, live bait, producer/harvester, ship building, trap or gear construction, insurance, finance, etc)				
3.3	Charter fishing boat operator				
3.4	Marine wildlife viewing guide				
3.5	Marine education				
3.6	Marine safety and enforcement (e.g., Coast Guard, etc)				
3.7	Shipping and marine transportation				
3.8	Marine science/marine biology				
3.9	Fisheries management				
3.10	Marine social scientist				
3.11	Other marine related (write in)				

4. List two careers that interest you now that aren't listed above. Then answer the question about each of these careers that best describes you by circling the "YES" or "NO" response.

CAREER	Did the Local Fisheries Knowledge Project have anything to do with why you are interested?	
1.	YES	NO
2,	YES	NO

IF YOU HAVE ALREADY PARTICIPATED IN AT LEAST ONE INTERVIEW, ANSWER QUESTION 5.

5. Thinking about the interview(s) that you helped collect or transcribe, write down two things you learned from the person (or persons if more than one) who was interviewed.

5.1. _____

5.2 _____

EVERYONE ANSWERS QUESTIONS 6,7, AND 8.

6. What is the best thing about the LFK Project? _____

7. What is the worst thing about the LFK Project?

8. What would make the LFK Project better?

Appendix C

Possible Topics for Evaluation of LFK Projects

Use these questions to help guide creation of evaluation questionnaires to use with your own VFF/LFK project. The way a question is phrased is determined by what classes are involved in the project and their specific lessons/activities. The answers will also be similarly affected.

TOPICS BASED ON PROJECT GOALS

1. Knowledge of the fishing industry and marine environment

- Through the LFK Project, what did the students learn about:
 - The local fishing industry
 - The fishing industry in general
 - The connections between their community's economy and the fishing industry
 - How the fishing industry influenced their community's culture
 - How the health and quality of the marine environment affects the fishing industry
 - How the fishing industry affects the healthy and quality of the marine environment
 - Other? TBD

2. Career aspirations/interest

- Marine related career interests
 - Do any of the students have career interests in the following marine fields prompted by experience in LFK Project:
 - Commercial fishing
 - Commercial fishing support industry (e.g., fishing supply store, live bait producer/harvester, ship building, trap or gear construction ... others?)
 - Charter fishing boat operator
 - Marine wildlife viewing guide
 - Marine education
 - Marine safety and enforcement (e.g., coast guard)
 - Shipping and marine transportation
 - Marine science / marine biology
 - Marine social scientist
 - Other TBD
 - *using same list, ask if they WERE interested in one of these careers BEFORE LFK Project experience...to see if it changed
- Other career interests prompted by experience in LFK Project
 - What careers are they interested in pursuing now ... was it based on the LFK Project experience?

3. Higher education interest/pursuits

- Are they interested in pursuing education beyond high school based on experiences

from the LFK Project? For what field / degree / career?

- What specific actions have they taken as a result (e.g., applied for college, tech school, etc)?

4. Preservation of local knowledge

- Did they have any changes related to perceptions or values of local knowledge? For example:
 - Did they learn something from their interviewees?
 - Did they find it a valuable or enjoyable experience?
 - Did they have any change in perception of the interviewee(s) before and after the interview(s)?

OTHER

1. Community connections

- Describe community participation.
- What were the benefits to the community or working w/students and schools?

2. Student-centered outcomes

- Community connections
- What were the benefits to students of working w/the community?
- Literacy results
- Interest in: school / staying in school?/reading/technology?
- Increase/Decrease in self-confidence, public speaking?
- Self-awareness, global/regional perspectives broadened/unchanged?

3. Teacher-centered outcomes

- How easy/difficult was it to incorporate project into their curricula?
- What skills did they need to acquire solely to lead the project?
- How much time did it take to plan/prepare/etc.?
- What was the impetus to participate in the project?
- Describe how your class incorporated the project. Comment on subject matter, themes, activities, etc.
- Was it the appropriate grade level in which to incorporate the project?
- What was the biggest challenge to participating and implementing the project?
- What professional outcomes did you gain as a project participant? Personal outcomes?
- Overall, was it worth it...?
- Will you continue w/the project next year? Why or why not?
- Would you recommend other teachers do it? Why or why not?
- What advice do you have for others teachers/schools starting an LFK Project?
- What were the benefits to teachers of working w/the community?
- What was your level of participation this past year?
- What do you see as the academic benefits of this project

- What was surprising to you about this project
- How might you participate in the project in the 2004-2005 school year?

4. Interviewee questions

- Tell us about your experience being interviewed by the students.
- Did the students ask “good” questions.../what do you think about the quality of the questions asked by students?
- What do you wish they asked that they didn’t?
- What do you think about the relevance of this project to you, your community, the students...?
- Would you be willing to be interviewed again?
- Do you have any concerns about the fishing industry and/or marine environment that you think students should know?
- Is there anything else you’d like to say?
- Has this experience changed your perception of education, young people, forms of learning, schools, of your local school, of your community?
- Is there anyone else you recommend be interviewed next year? (name and contact info)

Appendix D

Sample Curriculum - Science

To: NOAA Teachers

Project Name: Gulf of Maine Species Research

Project Overview: Students will be assigned the role of Research Scientist for the Department of Marine Resources. They will choose a species that is currently or was historically of economic import to the Gulf of Maine. A list will be provided to the students (i.e. lobster, mussels, shrimp etc).

Phase I: Students will research their chosen species and include the following:

- Common Name/Scientific Name
- Description (including photos)
- Habitat description
- Range Description
- Life Cycle
- Predator/Prey Relationships
- Potential and known threats to species stability

Phase II: Students will research the economic importance of the species (both historically and currently) and include the following:

- Uses by humans
- Method fished
- Current and historic population size
- Current and historic management efforts

Phase III: Students will propose a management or restoration plan including the following:

- Detailed habitat map with management area highlighted
- Possible impacts to fish species
- Possible impacts to fish industry

Students will receive feedback on their plans from community officials involved in resource management fields, like Robin Alden, former DMR Executive Director.

Phase IV: Students will present their research and plans to the school and community in a showcase exhibition.

Appendix E

Planning for the Use of Literacy Support Strategies

Teach, model and use Literacy Support Strategies to strengthen...

The inquiry process:

KWHL Plus Q * Concept Maps * Graphic organizers

Planning and analysis:

Specific analytical graphic organizers such as Venn Diagrams

Semantic Feature Analysis

Cause and affect maps

Thinking Maps: Brainstorming ideas//time-lines

Inference Wheels

Reading comprehension:

Coding/Comprehension Monitoring

Cornell Notes/ Two Column Notetaking

Think Aloud

Paired Reading

Save the Last Word

Group Summarizing

Sum It Up

Vocabulary development:

Knowledge Rating Guides (KRG)

Interactive Word Walls

Triple Entry Journals

Framer Models

Word Sorts

Writing:

Graphic organizers

Revision strategies

Peer editing strategies

Checklist: grammar; punctuation

Writing prompts

Interviewing:

Concept Mapping * Outlining * Coding *

Semantic Feature Analysis

Presenting:

Storyboarding/sequencing graphic organizers

* Rubrics * Rehearsal protocols * Feedback protocols

USING LITERACY SUPPORT STRATEGIES AS ASSESSMENTS

Using Literacy Support Strategies to Assess Literacy Development

One of the outcomes you will want to assess is how well students developed the intended academic literacy habits and skills you hoped to develop during the project (summative assessment). During the project you will also want to assess this in order to plan for additional needed support (formative assessment).

One valuable way to check in on student progress is to ask students to use a strategy independently (after it has been taught, modeled and used in a small group/with a partner).

Assessing Literacy Development

If you want to measure...	You might want to use...
Strategic Reading Skills	Coding/Comprehension Monitoring Think Aloud Written Protocol QAR
Reading Comprehension	Cornell Notetaking/Two-Column Notes Fishbone Organizer Picture This! RAFT
Analytical skills	Semantic Feature Analysis Proposition Support Outline List-Group-Label
Historical analysis	History Frame
Research/Inquiry Skills	I-Search paper
Writing	Use of the Writing Process Use of Rubrics Use of Graphic Organizers Focus Correction Areas
Speaking/Presenting	Use of Rubric Debate Narrated Powerpoint
Vocabulary Development	KRGFrayer ModelWord SortWord Cycle

Other ideas...

Using Literacy Support Strategies to Assess Project Learning

Literacy support strategies also provide vehicles for assessing project learning. By asking students to complete before and after forms of the same assessment, you can see students' growth in understanding of key concepts. By asking students to use literacy support strategies to show you their learning, you can assess the ways that students ultimately ended up understanding the project.

Assessing Project Learning

If you want to measure...	You might want to use...
Concept attainment	Concept Definition Map Semantic Feature Analysis Discussion Web
Understanding of Critical Issues	Problematic Situation Debate Proposition Support Outline RAFT
Understanding of Processes or Procedures	Analytical Graphic Organizers KWLH Plus Q
Point of View	RAFT Discussion Web Point of View Guides

Other ideas...

Using Literacy Support Strategies to Assess Project Impact

By building in use of the literacy support strategies as a pre and post assessment from the beginning, you can use the strategies to measure aggregate pre and post project impact.

Assessing Project Impact

If you want to measure...	You might want to use...
Change in general knowledge/awareness	KRG
Connections	Concept definition maps
Presentation effectiveness	Exit slips
Change in perspective	Anticipation/reaction guide

Other ideas...

PURPOSEFUL INTEGRATION OF LITERACY SUPPORT AND DEVELOPMENT INTO SERVICE-LEARNING PROJECTS Planning Guide

Premise: Place-based education projects provide a motivating authentic context for learning. Good literacy habits and skills are critical to success in the 21st century workplace, higher education, and most multi-faceted community projects. Infusing place-based project design and implementation with relevant literacy instruction and guided practice to support students to do skillful reading, writing and analysis, develop literacy rich projects and produce high quality communication based products is, therefore, a priority.

Goal: To infuse literacy support and development into Place-Based Education Projects in ways that provide instruction and opportunity for all participating students to strengthen their literacy habits and skills.

Questions to Aid Project Planning

READING (may include online sources)

1. What types of READING will the project include/require?
2. What types of READING could also be included in the project?
3. How will best practices in reading instruction be included as part of the project design (including collaborative protocols for looking at texts, strategic reading, note-taking and vocabulary development strategies)?
4. What specific reading skills will be taught/modeled? (skimming, main idea, question generating, etc.)
5. How will differentiation be taken into account?

RESEARCH/INQUIRY (includes technology)

1. What type of RESEARCH/INQUIRY will the project require?
2. How will project expectations for research/inquiry be included/modeled in the project design?

3. How will the research/inquiry process be scaffolded to support student success?
4. What specific research skills will be taught/modeled? (hypothesis generating, summarizing, organizing, note-taking, semantic feature analysis, etc.)

WRITING (includes technology)

1. What types of draft and public WRITING will the project require?
2. How will writing instruction and the writing process be incorporated into the project design?
3. How will project expectations for writing be included/modeled in the project design?
4. What specific writing skills will be modeled/taught? (use of rubrics to analyze drafts, summarizing, development or retention of voice, editing, formal vs informal uses of language, etc.)

SPEAKING/PRESENTING

1. What types of SPEAKING/PRESENTING will the project require?
2. What types of speaking/presenting skills will be taught/modeled? (interview techniques, development and use of visuals, audience awareness)
3. How will project expectations for speaking/presenting be included/modeled in the project design?

CRITICAL AND CREATIVE THINKING

Note: Obviously thinking skills are essential to all aspects of literacy but should be thought of separately to ensure that all participating students are being assisted to develop their critical and creative thinking skills/problem solving skills as an integral part of project design and implementation.

1. Specifically, how will students be taught how to brainstorm, focus and organize ideas and turn this into a work plan?
2. How will students be supported to gain analytical and evaluative skills during the project and how will these be evaluated?
3. How will project products specifically require synthesis of information across sources and/or adaptation of information to audience?

INSTRUCTION AND ASSESSMENT

Note: Instruction and assessment need to be planned as an integral part of the project design and implementation. Assessment should be formative as well as diagnostic and summative with regard to literacy habits and skills (see handout).

Appendix F

Interview Release Forms

Interviewee Release Form

TO BE COMPLETED BY THE PERSON BEING INTERVIEWED

(In cases of oral history interviews of deceased persons, to be completed by donor of the material)

I, _____, am a participant in the Voices from the Fisheries Project (hereinafter "VFFP") of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA/NMFS). I understand that the purpose of the VFFP is to collect audio- and video-recorded oral histories of the United States of America and its territories' commercial, recreational, and subsistence fishermen and women, and those who support them, as well as selected related documentary materials such as photographs for inclusion in the Voices from the Fisheries Database (hereinafter "VFF DB"). The VFF DB is housed on NOAA/NMFS servers and will be accessible to the public through a website. These oral histories and related materials serve as a record of the Nation's commercial, recreational, and subsistence fisheries and as a scholarly and educational resource for NOAA and the general public.

I understand that NOAA/NMFS plans to retain the product of my participation in the VFFP in digital form, including but not limited to my interview, presentation, video, photographs, statements, name, images or likeness, voice, and written materials ("My Collection") as part of its permanent collections in the VFF Database.

I hereby grant to NOAA/NMFS ownership of the physical property comprising My Collection. Additionally, I hereby grant to NOAA/NMFS, at no cost, the perpetual, nonexclusive, transferable, worldwide right to use, reproduce, transmit, display, perform, prepare derivative works from, distribute, and authorize the redistribution of the materials in MY Collection in any medium. By giving this permission, I understand that I retain any copyright and related rights that I may hold.

I hereby release NOAA and its assignees and designees, from any and all claims and demands arising out of or in connection with the use of My Collection, including but not limited to any claims for copyright infringement, defamation, invasion of privacy, or right of publicity.

Should any part of My Collection be found to include materials that NOAA/NMFS deems inappropriate for retention with the collection or for transfer to other collections in NOAA/NMFS, NOAA/NMFS may dispose of such materials in accordance with its procedures for disposition of materials not needed for NOAA's collections.

I hereby state that I am of legal age and competent to sign this release. I agree that this release shall be binding on me, me legal representatives, heirs, and assigns. I have read this release form and am fully aware of its contents.

ACCEPTED AND AGREED

Signature _____ Date _____
month/day/year

Printed Name _____

Name of Interviewer (if applicable) _____

Relationship to Interviewer _____

Appendix F Interview Release Forms

NOAA's Fisheries Service Interviewer, Recording Operator, Photographer Release Form for the Voices from the Fisheries Database

TO BE COMPLETED BY INTERVIEWERS, RECORDING OPERATORS, AND PHOTOGRAPHERS
(Please circle appropriate category.)

I, _____, am a participant in the Voices from the Fisheries Project (hereinafter "VFFP") of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA/NMFS). I understand that the purpose of the VFFP is to collect audio- and video-recorded oral histories of the United States of America's and its territories' commercial, recreational, and subsistence fishermen and women, and those who support them, as well as selected related documentary materials such as photographs for inclusion in the Voices from the Fisheries Database (hereinafter "VFF DB"). The VFF DB is housed on NOAA/NMFS servers and will be accessible to the public through a website. These oral histories and related materials serve as a record of the Nation's commercial, recreational, and subsistence fisheries and as a scholarly and educational resource for NOAA/NMFS and the general public.

I understand that NOAA/NMFS plans to retain the product of my participation in the VFFP in digital form, including but not limited to my interview, presentation, video, photographs, statements, name, images or likeness, voice, and written materials ("My Collection") as part of its permanent collections in the VFF Database.

I hereby grant to NOAA/NMFS ownership of the physical property comprising My Collection. Additionally, I hereby grant to NOAA, at no cost, the perpetual, nonexclusive, transferable, worldwide right to use, reproduce, transmit, display, perform, prepare derivative works from, distribute, and authorize the redistribution of the materials in My Collection in any medium. By giving this permission, I understand that I retain any copyright and related rights that I may hold.

I hereby release NOAA/NMFS, and its assignees and designees, from any and all claims and demands arising out of or in connection with the use of My Collection, including but not limited to any claims for copyright infringement, defamation, invasion of privacy, or right of publicity.

Should any part of My Collection be found to include materials that NOAA/NMFS deems inappropriate for retention with the collection or for transfer to other collections in NOAA/NMFS, NOAA/NMFS may dispose of such materials in accordance with its procedures for disposition of materials not needed for NOAA/NMFS's collections.

I hereby state that I am of legal age and competent to sign this release. I agree that this release shall be binding on me, me legal representatives, heirs, and assigns. I have read this release form and am fully aware of its contents.

ACCEPTED AND AGREED

_____ Signature	_____ Date (month/day/year)		
_____ Printed Name	(_____) - _____ Phone		
_____ Signature of Parent or Guardian <i>(if interviewer is a minor)</i>	_____ Date (month/day/year)		
_____ Address	_____ City	_____ State	_____ Zip
_____ Name of Interviewee	_____ Email		

Partner Organization affiliation (if any)

Appendix G

School Project Pre-Interview Worksheet

Student Name(s) _____

The person I (we) plan to interview is: _____

The interview topics are: _____

The interview will take place:

Date _____

Time _____

Location _____

Driver and/or chaperone _____

Questions I (we) will ask are: _____

I (we) explained the purpose of the project and what we plan to do with it. Yes__ No__

I (we) asked the person if he or she could be tape recorded and/or videotaped? Yes__ No__

I (we) explained the release form that the interviewee will be asked to sign. Yes__ No__

Other people who will participate in this interview are: _____

Photograph Log

Based on Library of Congress American Folklife Center Veterans History Project Forms

Photographs are accepted in digitized formats only. Photographers should sign a release form when possible. If more than four photographs are submitted, please make copies of this form to complete.

PHOTOGRAPH #1

Place _____ Date _____
Month/day/year

Description _____

Names(s) of Person(s) and their Birth Date(s) in Photograph (if known).

Person #1 _____ Birth Date _____
Month/day/year

Person #2 _____ Birth Date _____
Month/day/year

Person #3 _____ Birth Date _____
Month/day/year

Person #4 _____ Birth Date _____
Month/day/year

(if more than four identifiable people in photograph, continue on separate sheet)

Name of Photographer (if known) _____

Address _____

City _____ State _____ Zip _____ - _____

Name of Donor _____

Address _____

City _____ State _____ Zip _____ - _____

Telephone (_____) - _____ Email _____

Partner organization affiliation (if any) _____

PHOTOGRAPH #2

Place _____ Date _____
Month/day/year

Description _____

Names(s) of Person(s) and their Birth Date(s) in Photograph (if known).

Person #1 _____ Birth Date _____
Month/day/year
Person #2 _____ Birth Date _____
Month/day/year
Person #3 _____ Birth Date _____
Month/day/year
Person #4 _____ Birth Date _____
Month/day/year

(if more than four identifiable people in photograph, continue on separate sheet)

Name of Photographer (if known) _____
Address _____
City _____ State _____ Zip _____ - _____
Name of Donor _____
Address _____
City _____ State _____ Zip _____ - _____
Telephone (_____) - _____ Email _____
Partner organization affiliation (if any) _____

PHOTOGRAPH #3

Place _____ Date _____
Month/day/year

Description _____

Names(s) of Person(s) and their Birth Date(s) in Photograph (if known).

Person #1 _____ Birth Date _____
Month/day/year
Person #2 _____ Birth Date _____
Month/day/year
Person #3 _____ Birth Date _____
Month/day/year
Person #4 _____ Birth Date _____
Month/day/year

(if more than four identifiable people in photograph, continue on separate sheet)

Name of Photographer (if known) _____
Address _____
City _____ State _____ Zip _____ - _____
Name of Donor _____
Address _____
City _____ State _____ Zip _____ - _____
Telephone (_____) - _____ Email _____
Partner organization affiliation (if any) _____

PHOTOGRAPH #4

Place _____ Date _____
Month/day/year

Description _____

Names(s) of Person(s) and their Birth Date(s) in Photograph (if known).

Person #1 _____ Birth Date _____
Month/day/year

Person #2 _____ Birth Date _____
Month/day/year

Person #3 _____ Birth Date _____
Month/day/year

Person #4 _____ Birth Date _____
Month/day/year

(if more than four identifiable people in photograph, continue on separate sheet)

Name of Photographer (if known) _____

Address _____

City _____ State _____ Zip _____ - _____

Name of Donor _____

Address _____

City _____ State _____ Zip _____ - _____

Telephone (_____) - _____ Email _____

Partner organization affiliation (if any) _____

Appendix I Oral History Rubric

CATEGORY	4	3	2	1
Setting Up the Interview	The student introduced himself, explained why he wanted to interview the person, and asked permission to set up a time for an interview.	The student introduced himself and asked permission to set up a time for the interview, but needed a reminder to explain why he wanted to do the interview.	The student asked permission to set up a time for the interview, but needed reminders to introduce himself and tell why he wanted to interview the person.	The student needed assistance in all aspects of setting up the interview.
Preparation	The student read a minimum of three sources related to the proposed interview. Before the interview, the student prepared several in-depth AND factual questions to ask	The student read a minimum of two sources that related to the proposed interview. Before the interview, the student prepared a couple of in-depth questions and several factual questions to ask.	The student read a minimum of one source that related to the proposed interview. Before the interview, the student prepared several factual questions to ask.	The student did not read any material that related to the proposed interview. The student did not prepare any questions before the interview.
Follow-up Questions	The student listened carefully to the person being interviewed and asked several relevant follow-up questions based on what the person said.	The student listened carefully to the person being interviewed and asked a couple of relevant follow-up questions based on what the person said.	The student asked a couple of follow-up questions based on what s/he thought the person said.	The student did not ask any follow-up questions based on what the person said.
Sound Quality	Both the interviewer and the person being interviewed can be heard/understood very clearly on the tape with no wind or background noise.	Both the interviewer and the person being interviewed can be heard/understood very clearly on the tape, but there is some wind or background noise.	The person being interviewed can be heard/understood very clearly on the tape, but the interviewer's voice is not easily heard.	The sound quality is poor, making it hard to hear/understand the person being interviewed.
Formatting & Editing	The student edited and organized the transcript in a way that made the information clear and interesting.	The student edited and organized the transcript in a way that made the information clear.	The student edited and organized the transcript, but the information was not clear or as interesting as it could have been.	The student did NOT edit or organize the transcript.

Appendix J

VFF Project How to Participate Information Form

INSTRUCTIONS: Enter the requested information in the appropriate spaces in the Column on the RIGHT. The space will expand as needed. Save the document as a Word document. Email it to Voices@noaa.gov as an attachment to the email. Put “VFF Logon and Password Request” in the email subject box. Available online at <http://www.voices.nmfs.noaa.gov>.

Information About You, the Donor:	
First Name (required):	
Middle Name:	
Last Name (required):	
Suffix (e.g., Jr., Sr., III):	
Street Address (required):	
Street Address 2:	
City (required):	
State (required):	
Zip Code (required):	
Institutional Affiliation (if any):	
Position (if any):	
Telephone Area Code (required):	
Telephone Number (required):	
Email address (required):	
Information About Your Oral History Project or Collection:	
Name of Collection/Project (required):	
New Collection/Project (required):	
Education Project/Collection (required):	
Brief Description of Project/Collection (maximum 200 words, required):	

Appendix K

Assessing Place-Based Initiatives Quick Reference Guide

Themes and Aspects for Entry 1: Student Learning and Contributions

Student Intellectual Growth

- Promotes deep learning about important content
- Promotes student ownership and control

Academic Rigor of the Project

- Engages students in investigation, inquiry, and problem solving
- Establishes clear and challenging learning goals
- Enhances student learning through materials, resources, and support

Authenticity of the Project

- Addresses a real community need or interest
- Helps students take on community roles
- Engages students in real work that produces results
- Develops students' appreciation and understanding of place

Assessment

- Involves all participants in assessing learning
- Relies on multiple sources of information to assess learning
- Uses the results of assessment to facilitate learning

Themes and Aspects for Entry 2: Community Learning and Contributions

Connections between School and Community

- Builds school-community connections
- Addresses a community problem, issue, or interest
- Honors the local culture

Process

- Welcomes the questions and complications that arise from the work
- Builds access, communication, and trust

Roles and Relationships

- Supports adults to take on new roles
- Cultivates new leadership
- Nurtures new relationships
- Promotes shared responsibility and accountability

Community Learning

- Leads to new community understandings
- Engages adults in learning
- Fosters a culture of learning

Themes and Aspects for Entry 3: Deepening and Spreading the Work

Instructional Spread

- Impacts curriculum
- Impacts teaching styles and teachers' expectations for students
- Helps students stretch themselves as learners, problem solvers, and leaders

Community Engagement

- Involves a wide variety of individuals and organizations
- Leads to increasing impact in the community

Supporting Structures

- Is supported by teacher development and planning
- Is supported by school policies and practices
- Influences community policies and structures
- Broadens school's role within the community

New Resources and Connections

- Attracts and creates new resources
- Spreads to new places

Appendix L

Guilford School Oral History Standards

K-8 CONTINUUM OF STANDARDS · RELATED TO ORAL HISTORY

COMMUNICATION STANDARDS

WRITING

- 1.5 - Students draft, revise, edit and critique written products...
- 1.6 - Students' independent writing demonstrates command of appropriate English conventions, including grammar, usage and mechanics.
- 1.8 - In written reports, students organize and convey information and ideas accurately and effectively.
- 1.9 - In written narratives, students organize and relate a series of events, fictional or actual, in a coherent whole.

LISTENING

- 1.13 - Students listen actively and respond to communications.
- 1.14 - Students critique what they have heard.
- 1.15 - Students use verbal and nonverbal skills to express themselves effectively.

INFORMATION TECHNOLOGY

- 1.18 - Students use computers, telecommunications and other tools of technology to research, to gather information and ideas, and to represent information and ideas accurately and appropriately.

REASONING AND PROBLEM SOLVING

- 2.1- Students ask a variety of questions.

PERSONAL DEVELOPMENT

- 3.10 - Students perform effectively on teams that set and achieve goals, conduct investigations, solve problems, and create solutions.
- 3.14 - Students demonstrate dependability, productivity and initiative.

CIVIC AND SOCIAL RESPONSIBILITY

- 4.1 - Students take an active role in their community.
- 4.2 - Students participate in the democratic process.
- 4.3 - Students demonstrate understanding of the cultural expressions that are characteristic of particular groups.

*Numbering system references VT Framework of Standards
This document was developed by staff, community members and
students at 1996 Guilford Institute*

<http://www.vermontcommunityworks.org/cwresources/cwtools/communitytools/orhist-stand.htm>, ©1996 Guilford Central School

GLOSSARY

Culture: Culture is the shared code of meanings, conventions and knowledge that lie behind a people’s way of life. It is the “common sense” of a particular society. Culture is learned through the acquisition of a language, through observation, and through experience. Some call these patterns of life in communities socio-cultural systems.

Ethnoecology: Ethnoecology is the study of local or native people’s interaction with the environment in which they live and work, including their perceptions, use and management, and knowledge. Sub-disciplines of ethnoecology include ethnobiology, ethnobotany, ethnozoology, and ethnopharmacology. Both social scientists and natural scientists do this research working with local people.

Diagnostic Assessment: Diagnostic assessments (also known as pre-assessments) provide instructors with information about student’s prior knowledge and misconceptions before beginning a learning activity.

Formative Assessment: An assessment carried out during student work, not necessarily graded, that adds to student learning.

Local Ecological Knowledge (LEK): LEK is what people know about their local environment, how they acquired the knowledge, and their resource management practices

Local Fisheries Knowledge (LFK): LFK is knowledge of commercial, subsistence, and recreational marine fishing or harvest, including the marine environment and species, fishing culture and society, fishing technology and practices, and business and economic aspects of fishing. LFK is acquired and possessed by those involved on a day-to-day basis in marine fishing / harvesting and related activities (e.g., fish processing, boat building, and fishing gear construction). LFK is derived from personal and collective observations and experiences over a single lifetime and/or passed down through many generations. It is transmitted orally and through observation. It can be possessed personally and communally. It is connected to place and is locally specific.

Summative Assessment: An assessment, typically at the end of a unit or lesson, that is graded and is intended to assess mastery of lesson, discipline standards, or subject objectives.

Traditional Ecological Knowledge (TEK): TEK is a similar term to local ecological knowledge but is most often used in relation to ecological knowledge possessed by indigenous or aboriginal people, such as Native Americans.

Understanding by Design (UbD): UbD is a framework for designing curriculum units, performance assessments, and instruction that lead students to deep understanding of the content. UbD focuses on “backward design” - an instructional process that begins with the desired results and then plans the curriculum, choosing activities and materials that help foster student learning (Wiggins & McTighe, 2001).

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Recording Technology, Transcription, Preservation

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Useful Websites

Oral History Sites

American Folklife Center, Library of Congress - <http://www.loc.gov/folklife/>

Indiana University, Center for the Study of History and Memory - <http://www.indiana.edu/~csh/>

Montana Heritage Project - <http://www.edheritage.org>

Oral History Association home page at Dickinson College - <http://alpha.dickinson.edu/oha/>

Pre-Collegiate Oral History Projects list - http://www.doingoralhistory.org/in_classroom/exemplary_projects.htm

Smithsonian Center for Folklife and Culture - <http://www.folklife.si.edu/>

University of North Carolina, Chapel Hill, Southern Oral History Program - <http://www.unc.edu/depts/sohp>

Utah State University, Oral History Program - <http://www.usu.edu/~oralhist/oh.html>

Vermont Folklife Center - <http://www.vermontfolklifecenter.org/>

Other Sites

Partnership for 21st Century Skills - <http://www.21stcenturyskills.org/>

Rural School and Community Trust - <http://www.ruraledu.org/site/c.beJMIZOCiRH/b.497215/k.CBA7/Home.htm>

U.S. Copyright Office - <http://www.copyright.gov/>

