Forests for the Future

Unit 3

First Nations Resource Use on the Northwest Coast: Investigations into Geography, Ecology, Knowledge and Resource Management

by Scott McKeen

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Forests for the Future, Unit 3

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INTRODUCTION

Curriculum Area
Social Studies

Grade Level
9, 10

The following set of lessons teaches students about the concept of Traditional Ecological Knowledge (TEK). Traditional Ecological Knowledge may be defined as the accumulated knowledge of elders and hunters about the land, plants and animals around them.

One of the main goals of the unit is to teach the students about TEK in their own communities and how to collect it themselves. The second goal is to teach students about resource management and environmental issues and how TEK may be used to address them. This will include having the students compare and contrast different types of knowledge about the land, the environment and resource development. The unit concludes with a simulated resource management conference in which students play various stakeholders that they have researched in an attempt to develop a resource management plan.

Many of the lessons are suitable for co-operative and group learning activities, which will build skills required in the running of the conference. Assessment of student learning will be ongoing, through assignment portfolios, the keeping of a learning log (see page 8), and conference preparation and participation.

The unit is divided into several sub-units: Geography, Traditional Ecological Knowledge, Society and Culture, Environment and Technology, and Resource Management.

The geography component of the unit introduces the students to the landforms and environment of the Northwest Coast. It also enables the students to develop Social Studies skills in map reading. Furthermore, the concept of Traditional Ecological Knowledge will be introduced through an exploration of local place names.

The Traditional Ecological Knowledge sub-unit allows the students to read and analyze various TEK sources. Students will then be given instruction in gathering TEK and will produce their own sources of Traditional Ecological Knowledge

The next two sub-units, Society and Culture and Environment and Technology use the TEK source material to learn about

Northwest Coast communities, how they were organized, how they exploited resources, and how they may have changed over time.

The final set of lessons utilizes the material already learned to engage in a consensus building and decision making exercise. Students will prepare for and participate in a resource management conference. Students will represent various local interest groups including First Nations, loggers, commercial fishers, environmentalists and government agencies.

The following unit plan integrates the Prescribed Learning Outcomes from the BC Ministry of Education Social Studies Curriculum Integrated Resource Package (IRP) with materials from the Forests for the Future project. The materials collected are from the Northwest Coastal communities of BC. The following list of learning outcomes reflect the Ministry guidelines but are adapted to meet the particular educational goals of the unit.

Prescribed Learning Outcomes and Lesson Topics

Social Studies 10

Section	Learning Outcome	Unit Learning Goals
APPLICATIONS OF SOCIAL STUDIES SKILLS	*It is expected that students will:* • identify and clarify a problem, an issue, or an inquiry • plan and conduct library and community research using primary and secondary print, non-print sources, electronic sources and interviews • generate and critique different interpretations of primary and secondary sources • assess and defend a variety of positions on controversial issues • plan, revise, and deliver formal presentations that integrate a variety of media • demonstrate leadership by planning, implementing, and assessing a variety of strategies to address the problem, issue, or inquiry initially identified	*Students will be able to:* • Work cooperatively to build a consensus • Develop an understanding of the complexity of resource development and management issues • Extract and categorize information from a primary source • Produce a primary source through conducting an interview • Identify point of view within primary and secondary source material • Identify bias within a source • Differentiate between bias and perspective • Produce a resource management plan • Identify different knowledge paradigms • Integrate local knowledge with other types of knowledge
SOCIETY AND CULTURE: CANADA FROM 1815 TO 1914	*It is expected that students will:* • identify the changing nature of families and women's roles in Canadian society • assess the interaction between Aboriginal people and Europeans	*Students will be able to:* • identify family and gender roles in primary documents • identify and explain causes of change in family and gender roles in resource harvesting activities

Section	Learning Outcome	Unit Learning Goals
POLITICS AND LAW: CANADA FROM 1815 TO 1914	*It is expected that students will:* • evaluate the impact of western expansion and federal policies on Aboriginal people	*Students will be able to:* • evaluate a primary source document for evidence of the impact of the reserve system on First Nations people of the Northwest Coast
ECONOMY AND TECHNOLOGY: CANADA FROM 1815 TO 1914	*It is expected that students will:* • identify and describe the effects of technological innovation on settlement and employment patterns within regions of Canada • identify factors that contribute to the economy of British Columbia	*Students will be able to:* • identify different technologies used in various coastal resource industries • identify changing settlement patterns • recognize how resource development contributes to the economy of the Northwest Coast and BC
ENVIRONMENT: CANADA FROM 1815 TO 1914	*It is expected that students will:* • construct, interpret, and use graphs, tables, grids, scales, legends, contours, and various types of maps • identify and describe the physiographic regions of Canada and processes that formed these regions • analyse how geography influenced the economic, historical, and cultural development of western Canada • identify key local and provincial resource-development issues from 1815 to the present, considering the concepts of stewardship and sustainability	*Students will be able to:* • Identify different land and water forms; weather and climactic patterns on the Northwest Coast of BC • Identify settlement patterns along BC's Northwest Coast • Identify different types of resources available along the Northwest Coast of BC • Recognize the influence of geography on the culture and economy of First Nations communities on the Northwest Coast • Identify competing interest groups for the Northwest Coast resource base • Understand the impact of resource development on different aspects of an ecology • Develop an understanding of the complexity of resource development and management issues

Blackline Master 3-

Name_____

Student Learning Log

Date	Lesson Title	What I Learned
		1. 2.
		1. 2.
		1. 2.
		1. 2.

Lesson One

Local Geography: Locating and Naming the Northwest Coast

Learning Outcomes

- Create and label a map of the Northwest Coast
- Locate local geographic features on a map
- Relate the origins of local place names

Materials

- sketch paper
- map of Northwest coast, Blackline Master 3-1
- local road map for reference use.

Introduction: What is a map? What does it tell us?

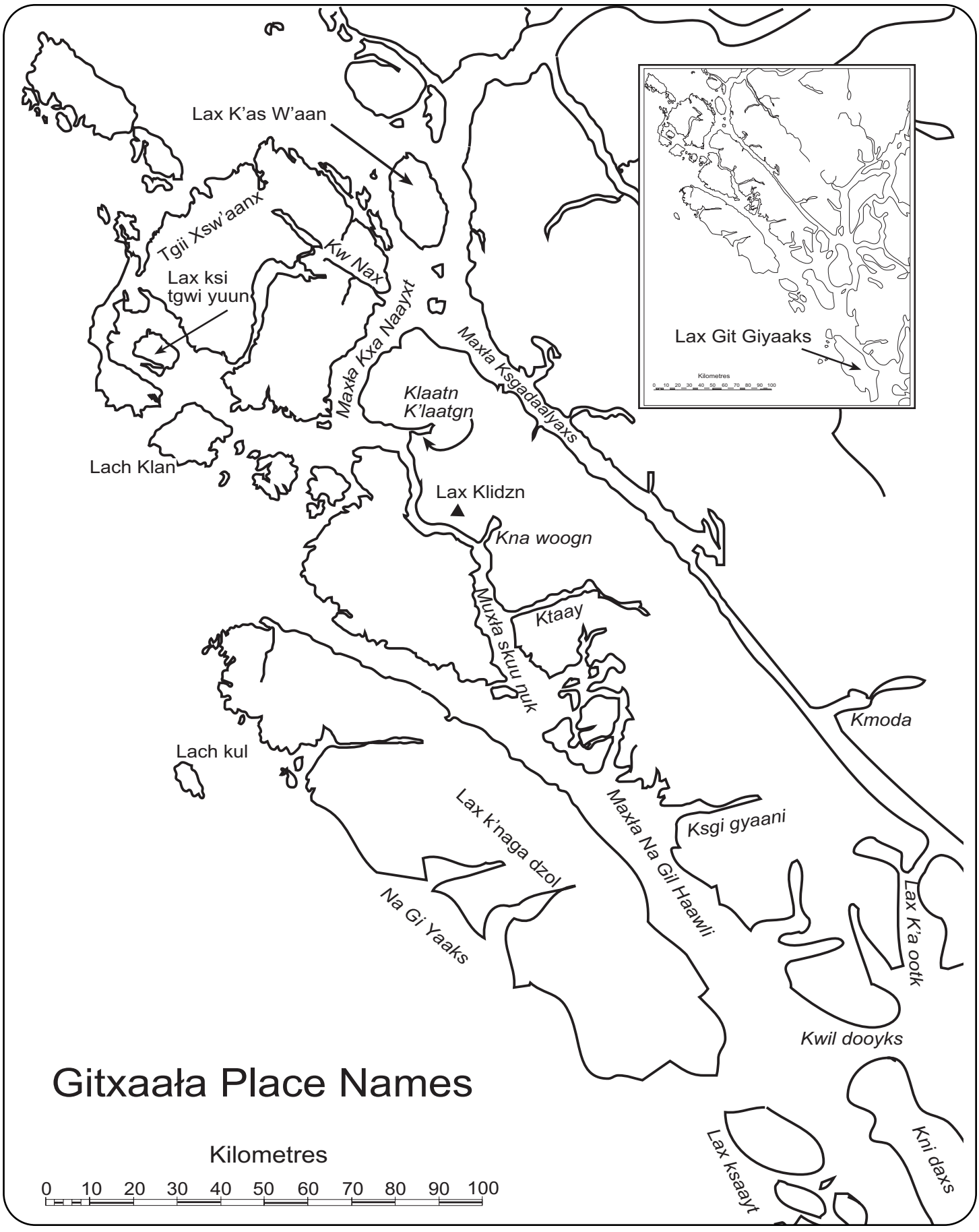
When we think about maps, we usually think about road maps, or maps of provinces, countries or the world. Maps are important sources of information about transportation routes, landforms, climate, settlement patterns, vegetation, resources, etc. Most modern maps are the products of official government agencies, businesses and universities. They are produced by trained cartographers and geographers. Maps are cultural artefacts. They record what is important about the landscape and indicate through place names, the history of the land and who controlled it.

Suggested Activities

1. Have students sketch freehand a map of the Northwest Coast. Have them include as many different features as possible. Encourage them to label the landforms, settlements, roads and waterways.
2. Discussion: The Origin of Place Names

- Ask the students the names of some of the more prominent landforms, such as local mountains and waterways. Ask them if there are any features that have more than one name or different names in different languages
- Ask the students to relate and record a story that they know regarding the origins of a place name. Have the students also include how they learned the story
- Have the students speculate as to who decided which names appear on the map

Assessment: Students should add the completed maps and stories to their portfolio of work.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Lesson Two
The Resource Base

Learning Outcomes
- Use an Atlas to identify resource and climate information
- Use symbols to communicate information on an outline map
- Understand the potential relationships between landforms, climate and resources.

Materials
- sketch paper
- school atlas
- map of Northwest coast, Blackline Master 3-1
- a local road map for reference use.

Suggested Activities
1. Distribute maps and atlases. Identify the major landforms on the Northwest Coast
2. Using the atlas map have the students locate and identify the various resources in the region that have been developed. The students should then use symbols and a legend to locate the resource areas on their outline map.
3. Have the students use the atlas to gather climate, vegetation and landform information on the Northwest Coast and record it on an outline map.
4. Discussion/Follow-Up Questions:

- What aspects of geography determine or influence the available resources in the region?
- How might landforms affect what resources occur in a region?
- How might landforms affect access to resources or getting the resources to a market?
- How might climate affect resources?
- How might global warming or climate change effect resources?

Assessment:
1. Students may add the outline maps to the portfolios.
2. Students may be assessed for the detail, accuracy and in-sight of their discussion comments. Alternatively, the questions may be assigned as a written assignment for either in-class completion or homework.

Lesson Three

An Introduction to Traditional Ecological Knowledge

Learning Outcomes

- Understand the links between geography and resource development
- Define "Traditional Ecological Knowledge"
- Identify the differences between TEK and scientific data.

Introduction

The students should be made aware of the link between the geography and the economic development of resources touching the following points:

- *The relationships between landform, climate and resources*
- *The relationship between resources development and settlement patterns "why do people live where they live?"*
- *Differentiate between the local exploitation of resources and extra-local interests such as big business and government*

Suggested Activities

1. A TEK Brainstorm

- Have the students divide into triads as evenly as possible.
- Assign to each member of the group one of the following words: Traditional, ecological or knowledge.
- Students then work independently to define the word that they are given.
- Once each of the words are defined, have the students combine their three definitions into one longer explanation
- Have several of the groups share their definitions with class.

2. Thinking about Traditional Ecological Knowledge

The following questions could be addressed orally or in written format. In order to produce a more detailed investigation, students, individually or in teams, could be asked to research an individual question and then present their response to the class. It may be useful to review with the class the fundamental principles of the scientific method in order to orient the discussion.

1. How is traditional knowledge different from the types of information found in a science textbook?
2. Traditional knowledge is originally oral. Do you think this makes it less reliable than the knowledge contained in textbook? Why or why not?
3. How is the knowledge contained in TEK gained? How is the knowledge contained in science books gained?
4. How do scientist, such as fisheries biologist, gain their knowledge?
5. Do you think it would be possible to use both TEK and scientific data in developing a way of managing the ecology?

Lesson Four
An Introduction to Primary Sources

Learning Outcomes
- Define a primary source
- Identify the characteristics of a primary source document
- Recognize a point of view within a primary source.

Materials
- Blackline Master 3-2, Primary and Secondary Sources

Introduction
The concept of primary and secondary sources is an essential social studies idea. Primary sources are those that are produced directly by the participants in an event while secondary sources are removed from the actual events. For example, a letter written by a soldier is an example of a primary source while a history book about a war is a secondary source. Both primary and secondary sources are important tools for learning. While primary sources are more immediate and contain direct information, they are also often more difficult to use.

Suggested Activities.
1. Primary or Secondary?
   Have the students list as many different types of sources of information that they can think of. This may be done individually or as a group brainstorm. One student may be asked to act as a recorder. Once the list is established, start to identify the primary sources with a P and the secondary sources with an S.

- Example:

Newspaper (P)	*Documentary (S)*
News broadcast (P)	*Movie (S)*
An old letter (P)	*Story you were told (P or S)*
Shopping List (P)	*Sports highlights (S)*
Diary (P)	*Being at a hockey game (P)*

- Put the definition of primary and secondary source on the board or overhead. See Blackline Master 3-2.

2.. Recognizing Point of View

The following activity will help the students recognize that every primary source has a particular perspective or point of view. This does not make it more or less reliable than another point of view, just different.

- Have the students imagine they are at a hockey game. The home team, The Reds, has scored in overtime to win the season series against their archrivals, the Blues.
- Assign each of the following roles to the students:
  Blues Goalie
  Reds Goal Scorer
  Reds Player with the first assist
  Reds Player with the second assist
  Blues Defenseman in front of the net
  Blues Defenseman in the corner
  Referee
  Linesman at the blue line

Goal Judge
Reds Coach
Blues Coach
Reds Fan behind the net
Blues Fan at the opposite end of the rink
An usher in the stands
A popcorn seller in the rink concourse
A local sports reporter
A player on the Blues bench
A player on the Reds bench

- Have the students write an account of the goal from the perspective of the person that they were assigned.
- Ask the students to try to make the story as believable as possible and to include details that no one else would have. For example, only the goal scorer would have the experience of letting the shot go and why he chose to shoot rather than pass.
- Let the students share their accounts, either orally or by passing them around. Once the students have heard or read several of the accounts, ask them which accounts are the most reliable and the least reliable.
- Ask them what factors might influence a witness's perspective. e.g.:
  - Were they happy or disappointed?
  - Were they part of the play or a witness to it only?
  - Did they see the goal or were they just in the rink when it happened?
  - Were they cheering for one of the teams or were they neutral?

Primary source

A primary source is a document or artefact that was created by a participant or witness to an event.

Secondary Source

A secondary source is a document that is created by a non-participant or witness to an event.

Lesson Five

Identify Traditional Ecological Knowledge in Primary Documents

Learning Outcomes

- Analyse the context of a primary document.
- Analyse the contents of a primary source document.
- Make a generalization based on evidence
- Identify Traditional Ecological Knowledge in a document
- Categorize the TEK into broad categories
- Present and share information with a group

Materials

- Copies of interviews, Blackline Masters 3-3 and 3-4.
- Analysis charts, Blackline Masters 3-5 to 3-7.

Suggested Activities

1. Sam Lewis Interview

Distribute copies of the Sam Lewis Interview. Ask the students the following questions:

- What type of document is it? (*an interview*)
- When was it created? (*February 11, 2002*)
- Who created it and why? (*Sam Lewis, Caroline Butler as part of a research project*).
- Is this a primary document? (*Yes*)
- What is the point of view or perspective of the document? (*It has the point of view of an elderly First Nations fisherman*).

2. Analysis Charts

Have the students complete the analysis charts for Seasonal Activities, Fishing Methods, and Way of Life (Blackline Master 3-5 to 3-7.)

- The students may work independently on each chart or the charts may be distributed to small groups and they may share their results.
- Once the students have completed the charts ask them to make a generalization about each of the topics in the chart. The generalization should be supportable evidence in the document.
- Discuss the results in terms of Traditional Ecological Knowledge. What evidence you listed in your analysis would you describe as TEK?

3. Martha Lewis Interview.

Ask students to read the second interview with Martha Lewis, Blackline Master 3-4. Complete the analysis charts once again and discuss as above.

4. Gender Roles

Have students work in small groups to compare the Traditional Ecological Knowledge of Sam Lewis and Martha Lewis. Discuss possible gender differences in the information.

- Have groups share their findings with the whole class.

Assessment

Completed charts may be added to the student portfolio. Student generalisations may be assessed on their accuracy and supportability.

Transcript of Interview
Sam Lewis

Interviewed by Caroline Butler, February 11, 2002

C: Are you old enough to remember the drag seine camps?

S: Drag seine camps? No, no, no. But I did all those things—seine boat, working on a seine boat, halibut fishing, and ran my own boat for a few years. And as a young child, I went out with my dad a lot, especially trapping, from here to across the village, where his trapline is, my dad's. We'd row across there in the morning and we don't come back until night time. And a lot of times, he did it by himself. He was gone from morning, didn't come back 'til dark, and nobody worried at all until he walked in the door in the old house. Back home, with a whole pile of minks on his back. That's what he did, trapping a lot.

C: And how old were you when you started going with him?

S: Oh, I guess very young, anyway. I remember going out with him like about, probably, 8, 9, or 10. Something like that, I guess. But as a baby, I went all over the place with them. They never left me home. They go out clam digging or they go out fishing, over the Queen Charlotte Islands, I was there.

C: Did you used to beach comb a lot?

S: Oh, yeah. That's all we ever did, as far as I can remember.

C: What time of year?

S Oh…like…any time throughout the whole year, eh, but the best time to do that is, like during the spring time when the weather's nice, eh. I remember that was around halibut fishing. On our harbour day, we'd be anchored up in a bay and chuck the little skiff overboard and walk around all along the beach. That was the fun part about my halibut fishing, when we have harbour day. We spent a lot of time on the beach, and that's where we find these glass balls here. That's where we find them. We had probably a hundred or two hundred of those one time.

C: Who did you sell the logs to?

S: Yeah, the logs, that's right. That was my dad's, like, part-time job he did in his younger days, when you, when Oona River used to buy the logs. He'd pick the best logs he can get and take them into Oona River there, and there was a guy there that buys them. Or he trades them for lumber, that's how we get some lumber sometimes. Years ago, when he was younger.

C: Where would your family go halibut fishing?

S: All over around these areas here, all around Gitxaa-a

C: What time of year?

S: Used to happen around May. About the last week of April, throughout May, and then part of June, I guess, we used to go halibut fishing.

C: And then what about the food gathering that you've done?

S: Oh, we did a lot of that…Lot of…Come sockeye season in, probably around June…we'd take our trip either with my cousin Eugene's boat or my brother Rennie would go out and get us the sockeye we need for serving for our winter food.

C: So you can most of that?

S: Yeah, can it, and smoke a lot of sockeye, a lot of sockeye. He smoked a lot of that. Jar a lot of it. We probably go about 7 dozen jars of fish a year.

C: And how many fish do you use?

S: Well, we smoke at least 50 sockeye, total, per year. That will get us right through. Because there's a lot of functions that happen here in the village. If we have visitors coming out, we have a smorgasbord and we cook up a lot of that smoked fish, or seaweed. So everything we get here, we use a lot for the community, when we have dinners or something like that.

C: When do you go and get seaweed?

S: That basically happens around May. They talk about seal seaweed. We call this stuff the ne-la, the very first seaweed. They're basically a little different than the seaweed we pick in May. They grow up a little higher. My grandmother…my grandmother was the only one that used to pick that. She says that's the first seaweed. But we don't call it seaweed, the one we pick in May. She calls it the neüüla, in other words, you would say "seal seaweed," I guess.

C: Seal seaweed?

S: Yeah. I believe to call it because the üüla in our language is "seal." So…my grandmother used pick that first stuff and they were very short. They were very hard to pick 'cause they were so short. That was the first seaweed she got. That probably happened in early April or something like that, I guess.

C: Do you see a difference between the seaweed you pick here and seaweed you pick on the west coast?

S: That's right. It's a big difference. There is more salt. Yeah…If you happen to be here during the month of May, some people pick seaweed our here, just outside of here.

C: It's more salty than the coast?

S: It is. There's a taste difference. And the seaweed from the reef tastes a lot different than the seaweed you pick on the cliffs. That's why people generally go for the reefs. You know, the reefs, when they're dried up. The seaweed are more tasty there than along the cliff side.

C: And what was your job when your family was picking seaweed?

S: To pack the sacks up, for my mom to dry that time…When my brother Raymond was alive, I was the youngest one that time, and my grandmother was out there…That's all my brother did that time, too. Sometimes, he and I would pick a little bit of seaweed and then we'd kind of leave my mom and my grandmother behind the reef…my dad and he and I would just go bomb around and do a little bit of hunting. That was the fun part of going out there, 'cause there's a whole lot of things to do at west coast. It's like a holiday, if you ever go out there. You catch the right weather, it's nice.

C: What would you hunt?

S: Deer and seal. There's lots of wildlife out there. A lot of wolves out there, too.

C: Did you hunt wolves?

S: No, but we always try to keep the pack down if we see them.

C: Oh, really…

S: Yeah. There's lots out there and if we get a chance, we'll pick one of them off right away and keep the numbers down, I hope. The population of wolves today, I believe there's really lots out there today.
Our elders, like my grandmother, used to tell me, …If you're going to go out beach combing or hunting or pick seaweed, leave the sea lions alone. Because if you start scaring them off the rocks, we're asking for a big Southeast wind, she said. So we kind of believed in that and didn't really bother

them too much, eh.
There are elders who can predict about seaweed. One elder, during the winter, she predicted that there's gonna be lots of seaweed last year. And there was a lot of seaweed. She said there's gonna be a lot of berries, there's gonna be a lot of salmon berries, too.

C: How'd she know?

S: The winter was long and cold. If there's…I believe if there's a lot of barnacles on the rocks, the seaweed on the reef is not going to be so good. Yeah. That's got something to do with the cold weather, too. You know, when the weather's cold, there's not too much barnacles that'll come for spring, and the reef is gonna be good for seaweed. Yeah, when the cold lasts long. Really cold weather. And she said, "Oh boy, seaweed's gonna be good this year."

C: What other foods did you gather?

S: The sockeye goes for canning and smoking, eh. But mostly, after that, there's chum and coho and humps—they all go for smoking. We don't jar the other fish at all. They're all smoking or dried.

C: And how many of each of those would you do in a year?

S: Well, let see, there's 50 sockeye and we cut down on the cohos…it's probably about 20, 20 or 30 of the other kind of species.

C: Was there halibut?

S: All along Gitxaa-a here, we'd get halibut. Lots of halibut. And my grandmother's whole house used to be just full to the ceiling, drying halibut….My mom used to slice them and make what we call woks, dried halibut. And my mom was really good at that. She made a whole bunch of that. Next morning she'd be working, slicing halibut, making dried halibut.

C: And then clams…

S: Clams, yeah. She still does clams today. Dried cockles, just dried. You have 'em on little sticks, like that, only they'll be way thinner than that, like a pointy rod, very sharp on one end. Push it through the cockle and put it on the fire, smoke it, dry it. They're solid dry and they're good.

C: And then how do you eat them?

S: Oh, you just eat them like a chocolate bar. [laughter] Or you make soup with it, just potatoes and all the vegetables, tomatoes, and then chop it all up and throw it in. And then you got your cockles.

C: How much do you think [food that your house eats], your household…how much of it do you think is gathered, like what percentage?

S: Well, the whole year, you probably split it right down the middle. It's probably half the year or a little more of all Indian food. It's about a half a year or just a little more of all Indian food we have here. Very few, very few steaks or beef, like that—very few. It's mostly all Indian food. That's why we smoke the sockeye, can the fish, and everything, put it in the fridge. Cockles…Right now we got a bag of cockles in the cooler we're having today.

C: So what are the things that people buy?

S: Potatoes, rice, and vegetables. Right now, that's about all we need—potatoes, rice, and vegetables. That's all we need in a month. Yep, that's about all. And the rest is all here—seaweed, salmon, seal, the deer, halibut, cockles.

C: Do you get a lot of deer in a year, now?

S: Um, it's been kind of slow for the past two years. You don't see too much deer. But a lot of people survive on that here, eh, deer meat. Like this year, you never know, could

be a good year. I'm hoping it's a good year because that's what we need is deer meat, now.

We jar the deer meat here. My mom and my sister jar them all as soon as my brother-in-law gets a deer or something…He goes out and he comes back and next morning, they'll be working, jarring the deer meat and all that.

C: So your mom and your sister do most of the jarring?

S: That's right.

C: And the drying?

S: Yeah, that's right. They do most of that.

C: So the guys just go out and get it?

S: That's right, yeah. [laughter] And my sister's kids are really involved in here, too…When they work on anything here, they're really good at…Like even skinning the seal…

C: Did people ever draw maps? Would someone like your grandfather ever draw out, to show someone where to go or anything like that?

S: That I can't answer you, but jeez, if they did—holy smokes! It'll be a really good map. [laughter]

C: How come?

S: It'll be interesting. But the old people, years ago, they didn't, I guess they didn't really want to do anything like that, 'cause they kept it to themselves. We have our own territories.

C: But there was a way that people sort of marked their territories or anything like that?

S: I don't know, but I'll tell you about my dad when we halibut fished, eh. My dad would never just throw his line over here, just like that. "Oh, I'm going out here. OK, let's go." Some days, he'd stand by the door, looking out. He'd be lining the mountain up, eh. A certain way, he'd line it up. When he says it's time to let go of that anchor, it has to go, 'cause we're on the spot where he wants to be. And if he missed that spot just a little, he's not going to catch the amount of fish he wants, eh. If he's right on, if there's halibut there, he's gonna get some.

C: How do you think that people found those spots, though?

S: I really don't know. Well, though his dad, eh, through his dad. My brother, right now, really knows those spots, eh. Especially just on the other side of this island here, you don't really just throw your line over there. You've gotta go by markings. There's a little island like that, and there's a little hole you see. When you see that little hole, let go.

It was a small area. And we'd expect halibut to be there. But he's not going to leave that area if there's no halibut.

C: No? What would he do?

S: He's gonna wait. If he waits, he'll wait for maybe a couple of days and he'll go back there. Bang, there it is. Yeah, he's gonna wait or he'll just move a little bit, just a little bit away from it. But he'll go back there and check it again. And he'd say, "There's gonna be halibut there. Once they're there, I'm gonna get them." And he could get lots when they're there.

C: What about crabs?

S: Well, crabs…Like they're good now. Throughout the summer time, you might find crabs, a lot of empty crabs, eh, around here.

Right after the salmon season, when the fish start coming out of the river, they're dying, eh. They're eating all the fish that's coming down the river, the dead fish.

C: So they're really good in the fall, then?

S: Yeah. Right after the salmon season's and lot a dead fish in the rivers, eh. And we notice there're a lot of crabs there, too.

C: And people use traps for them?

S: Yeah.
C: Did people always use traps for crab?
S: No, no, no. We used to go along the beach with our long pole and look down. We see them sitting along the rocks or in the mud. And my mother and I used to catch a lot of crabs like that. Never used, never used the crab pots before.
C: You used to stab them with a pole?
S: Yep. Just poke 'em with a pole, pull 'em in.
C: How would you know where to look when you were poling?
S: Well, as soon as the tide's low, low water. Then you see a lot of crabs along the rocks.
C: And…what octopus?
S: Oh yeah, my dad was real good at that. We used to have to dig, get 'em out of the rocks, and it was hard, eh. They were like the best thing to use for bait.
C: You use them for anything else?
S: You could put it in the jar, too. You put it in a jar, but we always just cooked ours and we never did jar devilfish. But a lot of people do right now.
C: So you'd…get them from the rocks, mostly?
S: Not just any rocks. The rock has to be terribly big. Go searching for it and you'll find a little hole on there. You see some fresh feed there, where they have been eating clams or cockles or whatever. You can tell, it's in front of the entrance, and you know there's one in there if it looks fresh.
C: How do you know if it's fresh?
S: You'll see the fresh stuff it's eaten.
C: What else did you use for halibut bait?
S: Best thing you use for halibut fishing is, when you leave your gear in overnight, is rock cod and devilfish, 'cause the bait stays on the hook for hours and hours, eh.
C: What about birds? Did you ever use any of the birds around here?
S: Ducks.
C: You'd shoot 'em?
S: Yeah.
C: What time of year?
S: That's when…that's when the herring roe would go strong up the inlet, Kitkatla Inlet, or anywhere past here. The herring were spawning. After they spawned, then you'll see a lot of ducks, black ducks, big orange-beaked ducks. They'll be real fat. They barely fly around. A lot of guys'll go chase them and shoot them.
C: … they were eating the herring roe?
S: Yeah, that's right. They'd get real fat. And geese…a lot of people live on that around here, eh. Go geese hunting. Very few get the odd swan. You see that once in a while here.
C: What about seabird eggs? Did you ever go for those?
S: Seagull eggs. Yeah. Years ago we used to get a lot of that, but that's kind of slowed down right now. Not too much. The only place where we picked those is when we're out halibut fishing out west coast.
C: That's when you would get them?
S: On the big rocks. Sometimes, if you're lucky, you get about 20, 30 eggs out of there. And an island, when we were halibut fishing, we'd go there. And that island has hundreds and hundreds of seagulls around there. If you go there at the right time you could end up with about a hundred and some odd seagull eggs, if you get there at the right time.
C: So people don't do the seagull eggs as much any more?
S: Not that much, no.
C: And you'd just eat them like regular eggs?
S: Yep. You can just boil it or you can fry it, have it with your bacon. The best part about that is the ladies use them to make their homemade cake. Yeah, and they say

it's better.

C: Now with the herring…Do you go out for herring roe?

S: Go up Kitkatla Inlet there in April, April and May. Get just, like, hundreds and hundreds of pounds of the herring eggs.

C: On the kelp?

S: Yeah. Get a whole bunch of it, put them out, put weights down on them, sink 'em. Then when they're full of herring, the corks and everything that's holding them up, they're barely floating. That's how many tons it's holding up. Herring eggs.

C: And then you'd freeze those?

S: Well, back then my mum used to dry a whole bunch of those. Sun dry them. Put 'em out in the sun—they're just dry. Just like potato chips, too. And that was the best. The grass, too. That goes on some kind of grass we call leggi.

C: The herring eggs go on there?

S: Yeah. On the bottom. You go to the right place, you gotta try and figure out where there's not too much sand, the bottom is sandy. Because if you go to the wrong place, you're going to be taking a lot of stones in the herring eggs, eh. You don't just put them out just anywhere when you put your kelp out. Because if you do, you're going to end up with a lot of sand in the kelp.

You try to figure out where the best place is. Watch where it's spawning. Like sometimes it's spawning one place and you know that area's no good to put your kelp down there 'cause it's going to be just full of sand. Until the spawn moves over to a different area where you hope it moves there and then you're lucky. And you're gonna have real clean kelp—no sand, no rocks in there at all.

You have to go pick the kelp first before you get the other ones. And what we call p'aatsah, that's weeds. They grow on rocks, these weeds. When they grow on the rocks, you look at it, check it out. If there's no sand in there, they're good, eh. But, like I said, some places are bad, you get a lot of sand. So you just check it out, so it's good you can take a whole bunch home, too. There's weeds and then grass and then trees. A certain type of tree. What type, I don't know what it's called, but they're like porcupine trees.

C: So there's four different things that…

S: That's right, yeah, four different things on herring eggs.

C: Do you get most of it on the kelp or most of it on the grass?

S: Well that depends on how the spawn is there. If the spawn is big, it's gonna be big there and everything will get it. So, you know, when you put the kelp down, you don't put it down today and then you say, yep, it's going to be good tomorrow and take it out. You don't do it. You leave it there until that spawn is clear. Otherwise, if you pull it up, you're pulling it away, it's gonna be slimy. You've gotta wait until their job is done. You know, when the herring are finished. When they're finished, you can take it away. But if you pull it out, pulling it away from them, it's gonna be slimy. So my dad said you never take it away, leave it there for two days and then take it away or so. Wait until it's finished.

C: So how long does that usually take?

S: It depends. Sometimes the spawn will go on there for at least a week sometimes.

Transcript of Interview

Martha Lewis (M) Sagyox
Gisputwada Clan, Gitxaa-a Nation
December 11, 2001
Interviewed by Sam Lewis (S) and Caroline Butler (C)

C: So, it's December 11th and we're here with Mrs. Martha Lewis. If you can just start with when you were born and what your Indian name and then…

M: My name's Martha Lewis. My birthday's 1919, April 11th. Now I'm 82 years old.

C: And your clan?

M: My tribe is blackfish killer whale. Killer whale. And my Indian name is Sagyox. My husband is Widinax …Before my mother died, and she told me that I'm going to take this Indian name, her own, her name, she told me to take it when she die. So I did, and I passed my other name to my daughter.

My mother's name is Dorothy Gordon. That was my last name before we got married. I got married when I was 21 years old. When [I was] staying with my mother and she taught me how to work, to go out with her on the row boat. We don't use a speed boat or a gas boat, nothing. We just go out and row and we get some clams in wintertime and my sisters, and then…In spring, then we had to go and row, row out and get some seaweed and we dry them in the sun. Sometimes we just dry them on the rocks. When they dry, then we soak them again with saltwater. We have to get saltwater from down out in the water and then we spray [them] on the seaweed, square seaweed, and leave it over night. And in the morning, then we starts chopping it, chop seaweed. Before we chopped, we would dampen it overnight.

My mother had two big blocks of wood, you know, and you had big ax for chopping seaweed…And then before the seaweed is off, and the old seaweed, and then we picked them off, too. And that's the one we use for toasted seaweed, toasted seaweed. We dry them and then we soak it again with saltwater. Then we go out somewhere in the shore and we toasted it, toasted seaweed. And everybody likes that.

We had to trade it with Nass River food, you know, and up the line food--soapberries and blueberries, the one they got up the line. And we trade this from Nass River with eulachon grease and eulachons, smoked eulachons. But I don't remember since my mother died and I started to work by myself 'cause she taught me how to work on food, Indian food…And I'm still working on it now, still working on seaweed, still working on clams. That's why we never get hungry. We always had mostly Indian food. Indian food is more better than the one we bought in town, meat…

The last growing seaweed is mixed with white – it is starting to spoil. It was used for toasted seaweed. We built a rack with sticks and lit a fire underneath. The blocks sat on top and we broke them with a rock. And then, on March, March when herring are spawning up the inlet or somewhere up there, and then we go out there. Somebody hollered and they said it's spawning up the

inlet. Some people just row around before. We don't use gas boat, we just row… And then we put the trees down, branches in the water, and the kelps…And then herring eggs, you know, the herrings go on there…the eulachon…I mean…Herring eggs go on there, yeah… herring eggs go on there and then we dry them after a while…

At about 10 days after that, then we take them off, take them up from the water, you know, where we put them when they were…when the spawning goes off, when it stopped, when…the herring egg, herrings don't go there. If we take them away from it, and it kinda slimy like, so we have to wait 'til it leaves those kelps, you know, and the branches. If we take them away from those herrings, it's slimy like. It doesn't taste good.

C: So you had to wait 'til the herrings left?

M: Yeah…

C: Otherwise it's slimy. So it takes 10 days?

M: Yeah… When we pick these up and then we dry them in the sun…we dry those trees, branches in the sun. When they get dry and we take them off, those herring eggs from the tree, from the branches. And then we put them somewhere else, in something like a [giblet bag] and save it. We don't have deep freeze in olden days. We don't have deep freeze in olden days. That's why I was surprised, you know, how my mother is looking after her dry fish. We still have smoked, dry fish whole winter. Nothing happened to it. They really how to look after the food.

S: When you used to go away with Na'a (name of grandmother) to get hat'al (cedar bark)…

M: Oh yeah, and you know that bark from the tree? When we make baskets …my mother goes out with us and he's the one that just takes them off and take them down by where my mother's sitting down by the beach and just split it up, dry them in the sun. And that's how she made baskets. She used to make really a lot, and big ones, too, big baskets.

C: What did she use them for?

M: She used it for seaweed and for everything. And she made that…I don't know what to call that in English. It's big square ones, it's big square…But we call this *duu-k*. I really don't remember what they call this in English. It's a square one. She just sat down on the floor and started to make it.

C: Did your mother get the bark at a certain time of year?

M: Certain time , certain tree…

S: I think it was just before fall, I guess. Think it's before fall, or what? Spring, or…I really forgot, what time of the month? I forgot. I used to go out with her, too, with my brother. I just don't remember what month. It seemed like September, late September, or something…or early September. Do you think so?

M: I think so, but gee, I don't remember.

C: But certain trees?

S: Yeah, certain trees, not just any kind of tree.

C: Did you go somewhere special for bark, or was it just wherever you were?

M: No, just certain trees. It's just a certain tree. We store it in a Rubbermaid so it doesn't get damp and turn red. You need an air-tight, dry place.

C: And the seaweed you went and got in the spring?

M: … Yeah, in spring. That's when we gets the seaweed.

S: Toward the end of April, all through May.

C: Is that a special kind of seaweed?

S: Yeah.

M: It's just a special one. Don't get any other kind. There's a lot of different kinds.

C: What's it called?

M: In our language?…We call it *¬a'ask*.

S: We do know there's all kinds of seaweed, but we know what seaweed we go for.

M: Some young people, they don't know what it is and they just pick all different kind of seaweed and you couldn't recognize it when we dry it, you know, they look different. They don't look good and they don't taste good.

C: Did you go to a special spot?

M: Yeah…We had to go around an island, and we stayed there for quite a while, dry them on the rocks. In one day they all get dry.

C: Just one day?

M: Uh huh.

C: Did you pick the seaweed on the beach?

M: Yeah, on the beach, on the rocks…When the tide goes down and…halfways down, then we could see on the rocks. That's on May, May when they started.

C: So it takes one day to dry, and then you sprinkle it with water and then chop…

M: Chop, yeah.

C: Then you toast it later?

M: When we went up, we pick the seaweed, the first one, and they grow again and that's the last one that grows and then that's the one we use when we toast it.

C: Oh, the second growth?

M: Yeah…We had to salt it in water too. A lot of fun when we do that, toast it, you know. We go out camping, him (husband) and I, and build a fire there. And then we made it…a little, a little place where to put those seaweed up there. After I dampen it with saltwater and then dry it in the sun, and then put them up…

C: Above the fire?

M: Uh huh. And after a while, I got a nice clean, just certain sheets, the one my mother made with…I still got them there…She sewed them together. I still got them. The only thing I use is when I, when we got seaweed, those sheets. She just sewed them together from the flour bags, you know…it's cloth, it's not paper.

C: And you put that between them?

M: Yeah.

C: You put that in the box?

M: Uh huh.

C: What did you get at the same time as when you were doing seaweed? Was it just seaweed at that time of year, or were there other things that you were gathering then, in May?

M: Well, it's a big tide. Zero tides, then we went out to get abalone. Abalone is the main thing that we always get on the zero tide…you know, when the tide is way down, that's zero tide…We went out to get abalone.

C: And what did you do with that?

M: I jar mine—boil it in a pot and then put it in a jar. But my mother used to dry them before, in the sun. She dries them in the sun, and it tastes good, too. Sometimes, she just give it to her friends in Nass River and up the line and these people just gave her food, too. You know, they just traded like that.

C: For things like oolichan grease…

M: Yeah…

C: So your mom traded with both the Nisg̲a'a and the Git̲xsan people…

M: Yeah.

C: And when did she do that? Did she go up

there, or did they come down here?

M: They come down…they go down to the canneries…'cause there's a lot of canneries up Skeena, around Skeena, Skeena River. There's Claxton there, that's old cannery, Cassiar, Carlisle…North Pacific, Sunnyside. We just went to trade. And she took a train to the Nass. When she was all done with seafood picking. We had smoked clams, cockles, herring eggs, dried abalone. She picked berries while she was gone – she was gone a few weeks. She took her grandson Raymond.

C: Which one did you go to?

M: Claxton. That's where I used to work, before…I used to work, fillet the fish, put the fish in the cans.

C: So the…Gitxsan, they have blueberries and soapberries to trade?

M: Oh yeah. That's the one they trade. They gave us soapberries.

C: And you gave them seaweed and abalone…and anything else?

M: Clams, we gave them, anything….That's what…my mother used to give them, traded like that. But now I had to buy some eulachon grease from Nass River when we want it…And they buy seaweed from me, too.

C: When did you go and get the clams? In the winter?

M: …Oh, clams, yeah…Sometimes I dry them. Now we freeze them. We freeze them now, after we clean them and we put them in the deep freeze….It's in October when the people started. But they aren't so good…they aren't so good on October, until November, then they're really good…March, then they stop. We don't have… we don't dig at March, around March. They get spoiled. They turned into milk inside it.

C: What other things did you gather with your mother, what other food?

M: *Gyels*, I don't know what they call that.

S: Mussels.

M: Mussels, yeah, mussels we call. You know that? Yeah. That's the one we used to get. But I don't know how many years we don't have it around here. I don't know what really happened.

C: It used to be around here?

M: Yeah, it used to be really lots. We just go out there and we get mussels and up there and across here. We used to get some but I don't know what really happened. They're all gone. Nobody found them out here.

S: There's some, but there's just not much, too. For some reason, they're gone too. There's very little. There's not much around here.

C: When did that happen? Do you know?

S: No idea, but we don't see too much of that around now.

M: Him [husband] and I hardly stayed home around this time, you know. Always stay out, on the islands, go out somewhere, hardly stay home. Go out and get seafood, go out and pick wood for ourselves. We hardly stay home. He always hunt deer and I jar them, I jar the deer meat. And when he shot the seal, you know, and I smoke it. I just slice it really good, with the ones that's good and fat. And then I smoke it, full dry for 10 days and it tastes really good. When we start eating it, boil it and boil it for quite a while 'til the water was…boil it for quite a while and have it with potatoes. Tastes really good. Now we can't get anything.

C: When did you used to have seal? At a certain time of year?

M: No, anytime. Anytime.

C: Did you have a trap line?

M: Trap line?… Yeah, my husband has a trap line. We just row across the village. We never bother about him, all day, until dark, then he come back with some minks and some otters, start working on it [laughter]. We don't see many marten anymore.

C: So minks and otters…

M: Yeah.

C: That's what people mainly trapped?

S: That's right, yeah.

C: Then did they sell those pelts?

S: Yeah.

C: Do people eat that as well?

S: Otters, some part of it they do. But nowadays, nobody would, …Come the month of May…tell her about you and Dad going fishing, alone, halibut fishing.

M: We used to go out fishing, to halibut fishing. Halibut fishing around Banks Island. "OK, I'm gonna jig right here," I say. And I started to jig. I caught a halibut. [laughter] So the people from Port Ed, the Christian people, they call me Martha Jigger

C: So you were jigging out of a boat then?

M: Yeah…Sometimes it's two of us, sometimes…We out on his gas boat and start jiggering, him and I….Never get tired, every, almost every day that we go out. Go out fishing, trolling and halibut jigger.

C: You trolled for salmon, too?

M: Yeah.

C: So you were jigging halibut? They're big!

M: Yeah. I make those halibut into…you know, I dry them. I dry those halibut. I slice them, put them on the table and then hang them up. We used to have a nice stove, wooden stove, you know, in the kitchen. I put them, dry them up in the…on the wooden stove, not on electric. If we do it on electric, they're hard, those halibut *wooks*, what you call *wooks* in our language. I used to have real lot of halibut *wooks* before, you know, and some people from the other place just buy it from me. Sometimes I just give it away.

C: Did you go to a fish camp?

M: My uncle take us around there when my father die. They don't want us to stay behind here and they all take us to their camp. They got two houses in there, that place there. And that's where we live, all together. We're all happy together there. And they go out, the men go out and get some fish and the ladies, when they come back, and they go down the beach and started to slice the fish, clean the fish. And someone had to go up and hang them up in the big smokehouse, smokehouse there. I remember when I tried to slice the fish but my mother wouldn't let me. "You're gonna spoil it, Martha," she said. She gave me a small little fish, you know, and started to work on it, too. [laughter]

S: How old were you then?

M: That was after eight years old. Around nine, I think, that was…summer, you know.

C: What were the women doing while the men were fishing?

M: We have to get ready for the smoking and get ready for them…My mother had to get ready for, you know, how to smoke the fish, 'cause they got a big smokehouse there. And a certain young ladies that climb up there. They're the ones that hang fish up when you start…when they finished slice the fish.

C: After you were done smoking the fish, then what would you do?

M: And then, when everything's finished, you know, and then they put these together and they wrapped it up. They don't put them in the boxes or something like that, you know, when they're full dry. All those other ones, when we make them sliced, when my mother sliced them, they don't put them in the boxes or anything where they save it. I don't even know how they look after it whole winter. They never get spoiled at all. That's the one we ate whole winter….Then we got some, what you call it, cockles…cockles…in the fall (October, November).

C: What about berries? Did you pick berries?

M: Yeah, I do pick berries. Blueberries. There's hardly any berries around here now…All the trees, the branches are out. I used to go around from there and pick blueberries and salmonberries. I used to make blueberry jam. And I freeze those salmonberries.

C: Were there any other kind of berries?

M: Huckleberries…Huckleberries…and what do you call that *waakyil*, grayberries?

C: Stink currant, right?

S: Yeah, that's right.

M: Yeah, really hard to pick it around here. We had to go out somewhere and go out way up in the bushes and get some.

C: What time of year?

M: In spring…

C: What about things that stop people from being able to get their food?

M: Oh, yeah, from logging camps. They're not supposed to do that, from all around here and up the inlet there. On one island, they cut all the trees off and all the camps down there, they're not supposed to do that. And around Banks, too, there, they cutting it for logging, logging camps.

C: And what happens when they cut the trees down?

M: You know, they're not supposed to do that. They're not supposed to do that, cutting the trees from the camps, you know. The other camps there, there's no trees left there anymore.

End of Interview

Blackline Master 3-5

SEASONAL ACTIVITY ANALYSIS CHART

Instructions: Read the document and record any evidence of each of the following categories. Indicate if the activity has changed by using an asterisk (*).

SPRING	SUMMER
AUTUMN	WINTER

Blackline Master 3-6

FISHING METHODS ANALYSIS CHART

Instructions: Read the document and record any evidence of each of the following categories. Indicate if the aspect of fishing has changed by using an asterisk (*).

SPECIES (Identify all types of fish, including shellfish and non-commercial species)	METHODS AND GEAR
CONSERVATION METHODS	LOCATIONS

WAY OF LIFE ANALYSIS CHART

Instructions: Read the document and record any evidence of each of the following categories. Indicate if the aspect of "way of life" has changed using an asterisk (*).

SOCIAL ORGANIZATION	FAMILY LIFE
FOOD AND DIET	CULTURAL AND RELIGION

Lesson Six
Creating Primary Documents, Conducting Interviews

Learning Outcomes
- Create a list of interview question
- Learn and demonstrate interview techniques
- Develop problem-solving skills

Materials
- Interviews, Blackline Masters 3-4 and 3-4
- TUS Research Guideline, Blackline Master 3-8
- Forests for the Future General Question Guidelines, Blackline Master 3-9

Introduction
Students will be asked to conduct interviews of community members regarding their resource harvesting experiences in an effort to produce their own Traditional Ecological Knowledge documents. Students will begin by making a list of questions that they might ask someone if they were conducting an interview. Please see attached resources: TUS Research Guideline (Blackline Master 3-8) and Forests for the Future General Question Guidelines, Blackline Master 3-9) Students should use the interview transcripts from the previous lesson to model questions that they might ask.

Suggested Activities
1. Have the students review the interviews (Blackline Masters 3-4 and 3-5) and identify the questions that were asked. Once the students have done this, have them edit the questions and add ones that they think might help them learn Traditional Ecological Knowledge from the interviewee.
2. When the students have produced their list of questions they should divide into pairs and conduct a mock interview with their partner. One student will act as the interviewer and the other as the traditional resource harvester. The student playing the harvester may base their answers on the interviews that they have already worked with or make up appropriate responses.
3. After the interviews had been going on for about five or ten minutes the teacher may stop the class and brainstorm solutions to problems that they have encountered.
4. At the end of the class students should be given the interview assignment.
5. Student Interview Assignment
   Each student is being asked to conduct an interview of someone who has participated in a resource harvesting activity during their life time. It may be the fishery, forestry, fur trapping or any other natural resource harvest. The interviewee may have worked either commercially as a full or part-time occupation, or non-commercially. The goal of the interview is to gather traditional ecological knowledge, that is, knowledge about the environment and the ecology held by workers. Examples of TEK include the life cycles of sought after species, conservation practices, harvesting techniques, division of resources amongst community members, and interaction with other interest groups.

Output:

- Students are to produce a written transcript of the interview, including the questions that they asked and the answers that were given. It may be helpful to use a tape recorder if one is available.
- Students are to provide a summary of the interview, highlight what they have learned.
- Students are to present their findings to the class.

Due Date: (It is suggested that the students have at least one week-end during which they may work on the project.)

Traditional Use Study Research Guidelines

by James McDonald

General considerations

TLUOS depend on traditional knowledge and traditional knowledge is oral. Some traditional knowledge was recorded and is available in publications and archives, but most remains oral. We need to talk to people to learn what they know. This is accomplished through an interview. Some things to remember about interviewing are:

- Language: Is English or Sm'algyax to be used? If English, is the person being interviewed comfortable speaking English or should a translator be used.
- Should English or Sm'algyax be used?
- Language structures the way we think and some concepts are hard to translate. Care should be taken that the appropriate language be used, and if a translation of words or of thoughts is necessary, that the translation be evaluated according to how accurately it conveys the original thought.
- If Sm'algyax, do both the interviewer and the interviewee feel sufficiently comfortable in this language.
- Context: interviews in an office are formal and sometimes stiff. Some people are not comfortable in this setting. Interviews at home can be informal and distracting (for example, if the TV is on) and may cause problems with recording, however, they may make the interviewee relax and talk more easily. Having family members or friends around may also promote a better conversation.
- Permission: People who participate in an interview need to know exactly the purpose of the interview and how the information will be used. They need to be able to give informed consent to the interview. Information can be given orally before the interview starts, and/or with a written statement that could be given out before the interview, or people can be informed through a well development community consultation process. The more individuals understand the purpose of the research and the importance of their participation, the more easily they will be able to assist and provide high quality information.

Directive questions

The interviews must provide some structure and guidance to the interviewee by describing the purpose and goals of the interview, and by having a set of interview questions to ask. These questions should be prepared before hand, as part of the project process and as part of the preliminary research. They can be very directive, with the interviewer taking control of the direction the interview goes, or more informal and non-directive, with the interviewer following and gently guiding the interview.

For TLUOS, highly structured interview schedules are a useful way to gather information. For the Kitsumkalum TLUOS, all the adult members of the Band were requested to appear for an interview at the Band Council building where a set of topographic maps was available. All those who came were asked a list of questions concerning their use of the land and resources, with the answers being taped and mapped. Questions were extremely specific, but the open-ended nature of the interview was also important because it allowed some respondents

to discuss related matters at great length. Non-band members were also contacted and arrangements made for interviews.

Portable and durable maps were created to enable the entire interview apparatus to go to the homes of people who could not travel to the Council building. This also allowed me to question people in far away villages and thereby fill in more of the picture.

The Kitsumkalum TLUOS evolved a set of directive questions concerning the resources taken from the land. Our original list of Possible Land Use Activities was drawn up through preliminary research asking community members for a list of their land use and what resources they used. This list was modified during the research period and supplemented with historical information available from archival and published sources.

The following section lists all the species for which I have some record of use by Tsimshians. (Included in your packages as a List of Possible Land Use Activities.) I am sure it is not complete but I provide it to give some indication of the types of land use that did exist and still exists.

Resources that are gathered

The full range of biological resources that were gathered and used for food, medicines, manufactures, etc., by the Tsimshians before contact with Europeans is probably more extensive than we can reconstruct, but I have definite references to the use of the following (based on original research and the major ethnographies):

- land flora: berries, roots (Boas 1889:816), maple wood (Boas 1916:396), fern roots (ibid.:404), hemlock sap, lichen (ibid.:44), skunk cabbage (ibid.:405), barks, shoots, crabapples (Garfield 1966:13), cedars, fir, yew, hazelnuts, grasses, high-bush and low-bush cranberries, devil's club, fireweed, fire wood, mushrooms;
- marine flora: seaweeds, kelp (Boas 1889:816, 1916:44);
- aquatic fauna: fish eggs, clams, mussels, (Boas 1885:816), cockles (Boas 1916:404), barnacles, chitons, shellfish (Garfield 1966: 13), china slippers, sea cucumbers, abalone, crabs, sea prunes
- land fauna: birds' eggs.

Aboriginal plant care (horticulture)

The standard published accounts of the early Tsimshian do not refer to the practice of any form of horticulture, but the cultivation of crops is certainly popular now, and seems to have had a much longer history and more important role in the past than the literature suggests. This is not to overemphasize the topic—the Tsimshian were not farmers—but only to note that they did have knowledge of plant cultivation. There is a difference between the use of resources as they are found naturally and the cultivation of them to enhance their usefulness to a population. Garfield (1939: 199) mentions the trade of wild celery and other vegetable products for European commodities at the Hudson Bay Company post, and the trade of potatoes from the Haida.

This is very little to go on, but at Kitsumkalum people remember more. Berry bushes, for example, were cleared of overgrowth after the fruit season to ensure a healthy supply during the following year, and to allow pickers to move more easily through them. The Tsimshian took care of other naturally grown plants. Wild rice was weeded in the early spring and summer, and (Labrador) tea was also weeded when necessary. Fruit trees were frequently tended and people consider the presence of nut trees and crabapple trees a sure sign of an old village or camp site. I was often told that "wherever the old people camped, there are crabapples." The

nut trees in Kitsumkalum valley were reportedly transplanted as saplings from Kitselas canyon. Finally, the people used to cut down apple trees, leaving a portion so that new growth would come and provide both more fruit and fruit that was within reach.

Information on plant care is important in understanding the extent and nature of Tsimshian land use.

Hunting resources

The Kitsumkalum people regularly hunted a variety of land animals. Apart from the fur-bearers that they trapped, I encountered specific references to the following species: deer, elk (Boas 1889:803), seal, sea lions, sea otter, mountain goat, mountain sheep, bear, porcupine, raccoons, eagles (Boas 1916:44, 51, 52, 401, 404, respectively), marmots (groundhogs) (see McDonald 1983), caribou, moose, cougar, hares, lynx, swans, geese, ducks, waterfowl. This is, in effect, a list of all available fauna, other than most small rodents, insectivores, reptiles, and amphibians.

Species trapped

Of the sixteen fur bearers harvested in British Columbia, I have records of ten being taken and sold by the Kitsumkalum: fox, beaver, marten, lynx, mink, muskrat, river otter, squirrel, weasel, and wolf (those not taken are fisher, bobcat, raccoon, skunk, wolverine, and coyote).

Food fishing species

Marine species for which I have specific reference on utilization include: cod, halibut, salmon, herring, cuttlefish, occasional drift whales (Boas 1889:816), oolachan (Boas 1916:44), dogfish (ibid.:67), porpoise, bullhead (ibid.:396), devilfish (ibid.:400), eels (ibid.:404), flounders, red snapper (Nolan 1977:167), shrimp, and pilchard.

Fresh water species available and taken in the Tsimshian territories include sturgeon, trout (rainbow, cutthroat, brook, dolly varden, char), whitefish, suckers, chubs, and the landlocked kokanee salmon. Oddly, the ethnographic literature only mentions the use of trout (Boas 1916:195ff - although not the char species), but not the other fresh water fish.

Commercial fishing

A record of fishing areas is partially defined by government regulation and partially by an individual's resource patterns. A record of which commercial species were taken and where could be a useful contribution to a land use study and certainly to a co-management study.

Logging (hand logging, beachcombing, powerlogging)

Earlier logging practices, especially hand logging, beachcombing, and powerlogging had a territorial aspect that influenced where an individual worked. These commercial activities, like trapping, were often concentrated in or around traditional properties. The reasons varied from the political one of working your own property to the practical one of logging in the same area a person had a trapping cabin, fishing area, etc. Even today, working with forestry companies can have a territorial influence.

Cultural Heritage Resources

Information on cultural heritage resources is important to include in the TLUOS. Oral knowledge will be gathered through the interview process. Archival knowledge will supplement that, sometimes giving more precise locations and contemporary data. Similarly, the archaeological record should be consulted.

Examples of CHRs are archaeological sites, living sites, work sites, recreation sites, healing sites, spiritual sites, transportation routes, and so on. I do not list other types of resources that were used, such as minerals or rocks that might have been quarried. Place names are an important cultural resource that should be noted and recorded.

Non-directive questions

An interviewer must also be careful to be as systematic and thorough as possible in exploring the topic. Interviewees often wander off topic. A natural response is to pull them back to the subject of the question (e.g. hunting), and that might be the best thing to do. However, sometimes the interviewee is simply providing an answer in a way the researcher had not considered. Talking about trapping may actually be a way to talk about hunting that is done while trapping. Sometimes the respondent is going off topic but providing information that will answer other questions or reveal new questions. Interviewing is an art that must be learned. You should also think about interviewing as something that should be controlled by the interviewee who, after all, knows more about the subject then you do. A good interview has learned when to let a conversation wander, and when to draw the speaker back to the specified question.

Research props can be useful interview tools. Maps were only one of several formal "props" that facilitated research for the Kitsumkalum study. Materials such as photographs or tools, helped to stir dormant memories, to extend conversations beyond what I could anticipate simply from the development of the interview, and to provide additional focus to the interview. The end of an old hand logging tool found at a garage sale proved a useful prop that helped me understand how hand logging was done and the environmental considerations of rolling a log down a mountain side. In the process, the project also received additional information on hand logging and beachcombing in the Skeena River.

These props evoked information, but also served to focus attention. The land utilization study was an intensive encounter with a broad subject. As people expanded upon their comments, the materials used in the interviews brought them back to topic. Less formal sessions had the potential of going off on exciting trails of thought, but never returning to complete any one. When a particularly informed respondent begins to especially enjoy the conversation/interview, it can be difficult to constrain him or her to the topic that was of original importance. Props did so in an unobtrusive manner —most of the time.

Participant observation

Participant observation is another way to gather information by participating in land use activities and making observations. Your daily life experiences in your communities provide a wonderful opportunity to do participant observation. Not only does this method allow you to gather and understand information, it can also be a way of extending your understanding of traditional knowledge. During the ILOU Project, one interviewer who had been out on the land with one of the hunters noticed that the hunter was not responding with all the information about a previous hunting trip. When asked why, it was discovered the hunter had a different interpretation of the question than did the interviewer. For the hunter, hunting territory referred only to areas where he habitually went specifically to hunt and expected to make a kill, not areas where he might

take an animal in process of doing something else, such as fishing. Some of the Inuit said they fished everywhere but never went (specifically) fishing so they did not have a fishing area to put on the map!

Administration

To every research project and every interview there must be administration. I am referring to the administration of the research process. As the project develops, certain research needs will be identified. These needs will be translated into research strategies, transformed into a regularised research process (perhaps of a series of interviews), and work will be initiated. For each of these regularised procedures, administrative records must be kept.

For an interview process, you will need to keep notes of who you have contacted (e.g., to set up interviews), the results of that contact (what time was set, do you have to call back?), whether the interview was completed, whether there needs to be follow-up, whether the information was stored on tape or other source, whether the information has been entered onto a map or other form of report, and so on.

Keep records even for information gleaned from casual conversations that occur between a researcher and a member of the community, whether that conversation takes place in person, or over the telephone. This applies to all discussions, correspondence, meetings, studies, and any actions taken.

When project data is being transmitted, NEVER rely on your memory for longer than it takes to find a pen and paper or keyboard and computer. Always record the information promptly and thoroughly.

The records you keep should include all initiatives and the responses, including negative responses and non-responses, as well as positive responses. Make a note of the time, date, and names of the people involved.

As an example of administrative record keeping, a data sheet that was modified from the KKSHRP is provided, showing how we kept track of the basic land use interviews.

Recording Data

It is very important to show that the Tsimshian share a common perspective, if they do. This can best be accomplished by carefully noting the individuality of each respondent, where he/she lives, when they lived, and so on. Avoid the temptation of merging original pieces of information into a single piece. For example by putting together bits and pieces of a story into a single narrative. That can be done in the analysis. To do so at the level of primary information may cause you to lose subtle but important meanings.

Note taking

Careful notes should be taken of all the traditional use information that is gathered. These are a part of the original project data and form one of the basis for all the analysis. All notes need to be clear, thorough, duplicated, and archived. Clear notes are ones that can be read by anyone.

- They are written or typed in a clear script.
- Abbreviations and short hand is avoided and only used when the meaning is clear.
- Written notes should be made in a black ink or dark pencil so they can be photocopied easily.
- They are on sturdy paper. If you have to write something down on the back of page or on a piece of serviette (emergency paper is sometimes required!), transfer it to proper paper as soon as possible.

- They are kept clean (no coffee or mustard stains).

Thorough notes are ones that contain everything you need to know in the future in order to understand the notes, and everything that you were told during the interview. For future reference be sure to record who made the notes, the date, the place, the source of the information, any relevant biographical information on the source, and anything else that might help you reconstruct the interview.

To record everything, you need mechanical assistance from tape recorders, video recorders, and cameras. This is not always possible or desirable. Paper notes should be as thorough as possible. Take careful notes during the interview. Review and augment them after the interview. You may wish to review the revised notes with the interviewee to check for accuracy, to ensure you understood properly, and to gather supplementary information or clarifications of points.

Spiral steno books with the coil on top are very useful for note taking. They are easy to carry, relatively sturdy, and store well. They can be labelled, indexed on the cover, and filed away in the archive.

A note on spellings

Proper and appropriate spelling of non-English words can be problematic. Non-standard spellings can cause confusion and loss of information. Where there are no widely accepted or understood standards, an effort must be made to create conformity at least within the bounds of a particular project. The Tsimshian have an excellent reference dictionary that can be considered as a standard. Use of the Dunn dictionary or any other standard is a decision that must be made before recording begins. The advantages of using it as a standard are great. The disadvantages are that dictionaries do not always provide spellings for names and may be misleading if the researcher attempts to break a name down into separate words. Another problem is that dialect differences may be lost in standardization, thought the Dunn dictionary includes all variants of each entry, and the writing system is intended to allow any new forms to be written using the same system. Finally, there are some established but non-standard spellings, especially for names, that should be kept simply because they are well known and widely used. An example is the well known name Zimacord which is neither a standard spelling for the Sm'algyax word nor the legal name of that river.

Follow one of two different approaches. Whenever possible, I prefer to use Dunn's dictionary as a standard. This method is especially good for new transcriptions but can be carefully applied in "translating" older spellings. Translation is a risky route for me because I am not a linguist. Mistakes can easily be made. To increase reliability, I consult with a fluent speaker. Noting the index numbers to each of the words allows others to double check the translation. When standardization is at all uncertain, stay with the original spelling. Better to replicate an old non-standard spelling until a someone with competence in the writing system can standardize it, than contribute confusion. A proliferation of new spellings with each project and report is not a desirable situation.

Standardized writing systems are also important. Word processing programmes should be used that can replicate linguistic writing systems.

Forests for the Future: General Topics for Interview Questions

- What types of food and materials did you gatherer and use?
- How did you use these foods and/or materials?
- Where are theses foods and/or materials usually found?
- What types of plants and/or animals are usually found together?
- Are these types of plants and/or animals always found together?
- Are there any special plants and/or animals that you can use as an indicator that other plants and/or animals are nearby?
- How are these plants and/or animals used, how are they gathered/hunted/fished, what are they called, what things are related to it or is similar to it?

Land Resources

Types of foods from:

- Plants
- Trees
- Berries
- Mosses
- Ferns
- Mushrooms and/or fungi
- Animals

Type of information to ask about types of foods gathered

Name of food/material: is name the basis for the name of a person, place, season, or spirit being.

- Methods of harvest
- Methods of preserving

Ways of cooking

- Ceremonial uses and histories/stories related to food or material
- Trade uses: was this food or material traded with other houses, villages, nations; was it a common or rare trade item.

Types of materials for building, clothing, ropes, etc made or collected from:

- Plants
- Trees
- Berries
- Mosses
- Ferns
- Mushrooms and/or fungi
- Animals

Sea Resources

Types of foods from:

- fish
- seaweeds
- sea mammals
- sea birds
- others: such as snails, limpets, abalone, cockles, clams, mussels, chitons-sea prunes, crabs, prawns, shrimps, sea urchins, sea cucumbers, sea anemones, etc.

Type of information to ask about types of foods gathered

- Name of food/material: is name the basis for the name of a person, place, season, or spirit being.
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- Methods of preserving
- Ways of cooking
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Lesson Seven

Analyzing Traditional Ecological Knowledge in Primary Documents: Society and Culture

Learning Outcomes

- Identify different types of social and cultural information in a TEK document
- Categorize evidence extracted from a primary document

Materials

- Interviews, Blackline Masters 3-4 and 3-5
- Blackline Masters 3-10, Social Organization and 3-11, Culture

Introduction

Review with the students the definitions of society and culture. While both of the terms are very complex, a simple working definition will be best to help the students with the assignment. Society may be defined as the way in which people live in organized groups. Culture may be loosely defined as the religious, intellectual and social structures and values that characterize a society.

Suggested Activities

1. Divide the class into groups and give to each group one or two interviews depending on the ability of the group. Students may use the charts on Blackline Masters 2-10 and 3-11 to help organize the data.
2. After the charts are completed, have the students identify which of the societal and cultural facts they have recorded are related to resource harvesting and ecological knowledge. Students may also be asked to identify which aspects of society and culture have changed over time.
3. As a final activity, students may selectively share their findings with the class.

Social Organization

Family:

Female Roles:

Male Roles:

Roles of Elders:

Teaching Children:

Clans:

Village or Community:

Culture

Values:

Religion:

Beliefs:

Ideas:

Other:

Lesson Nine

Analyzing Traditional Ecological Knowledge in Primary Documents: Environment and Technology

Learning Outcomes

- Identify different types of environmental and technological information in a TEK document
- Categorize evidence extracted from a primary document

Materials

- Interviews, Blackline Masters 3-4 and 3-5
- Blackline Masters 3-12, Environment and 3-13, Technology

Introduction

As for the lesson on society and culture, students are being asked to review a document for particular types of information. The key terms "environment" and "technology" should be reviewed. Environment may be defined as the natural surroundings that influence a society. Technology may be defined as tools that people use to shape their environment.

Suggested Activities

The activities are as for lesson eight. Students may work on the same documents or different ones.

Assessment

Students should be asked to complete their learning log during these lessons. They may also produce their completed charts to be assessed and added to their portfolios.

Environment

Land:

Sea:

Resource Harvesting:

Conservation:

Technology

Resource Harvesting

Resource Processing

Cultural

Daily Life

Forests for the Future, Unit 3
First Nations Resource Use on the Northwest Coast: Investigations into Geography, Ecology, Knowledge and Resource Management
by Scott McKeen

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