Food Manager and Regulator Training

"GLIFWC's Chippewa Ceded Territory Traditional Food Regulatory System Project"
Funded by the Administration of Native Americans and Great Lakes Indian Fish & Wildlife Commission

Great Lakes Indian Fish and Wildlife Commission

GLIFWC is an intertribal natural resource agency of its member tribes, operating through a specific delegation of tribal sovereignty to provide **conservation enforcement, intertribal coordination, technical assistance** (scientific and legal) and **assistance on resource development** within and pertaining to the tribes' off-reservation rights and incorporating Ojibwe culture.

- Conservation Enforcement
- Division of Intergovernmental Affairs
- Planning and Development
- Public Information Office
- Administration
- Biological Services

Welcome and Course Objectives

Provide participants with information on:

- Model Food Processing Code
- Equipment and methods
- HACCP and SSOPs
- Contamination risks
- Food safety overview

Discussions will be framed in a practical context to make it more engaging, with your participation encouraged!

Training Schedule

Session 1: Project Background & Model Food Code History and Jurisdiction

Session 2: Overview of Food Safety and Contaminants

Session 3: General Provisions

Session 4: Fish Processing

Session 5:Meat Processing

Session 6: Produce Harvesting and Packaging

Session 7: Low-Risk Foods

Session 8: Additional Resources, Implementation Discussion, & Final Review

Course Expectations

- Attendance
  - Participate in the live sessions
  - Engage in discussions
- What happens if I miss a course?
  - Contact course instructor
- Final Survey

- Certificates will be emailed to address on file
- If you are interested in CLE credit, please contact us

Session Overview for Today's Session

- Overview of the project, project details
- Background on Anishinaabe governance, economy and foodways
- Treaties with the United States and court cases involving treaty rights and tribal sovereignty
- Tribal jurisdiction -- where does the tribe's power to regulate extend
- First look into the Model Food Processing Code -- Definitions

Project Background

- GLIFWC member tribes have affirmed their treaty rights, which include commercial sale of treaty harvested foods
- 2014 Farm Bill
- 2015 Meetings with tribal leadership and the Wisconsin's Department of Agriculture, Trade, and Consumer Protection (DATCP)
- May 2016, GLIFWC's Board of Commissioners held a Model Food Code Listening Session

Project Overview and Goals

- Three year project funded through the Administration of Native Americans (currently in Year 3)
- Overall project goals
  - Provide tribal programs and communities with increased access to traditional wild-harvested foods
  - Provide economic opportunities for tribal harvesters to sell value-added products made from wild-harvested foods
- Objectives and outcomes
  - Model food processing code for traditional foods
  - Reports on review of scientific literature on food safety, HACCP plans, SSOPS on traditional food processing
  - Training for harvesters and governmental staff

Goal: "Expand the utilization of treaty harvested fish, game and plants by increasing tribal self-regulatory capacity and sovereign control over activities governing the use of treaty resources."

Food Regulatory System Project Impact

Many Ojibwe treaty harvested foods are not regularly served in Federally-funded programs, even on reservation, or available in restaurants, grocery stores, etc.

- Represents technical assistance to tribal governments
  - This food system must be implemented through official action of a tribal governing body
- The 2014 Farm Bill authorizes the use of traditional foods in certain federal food programs by donation
  - This project will assist tribes in implementing that provision of the 2014 Farm Bill to immediately expand the amount of traditional foods in tribal programs, with a transition to purchasing possible

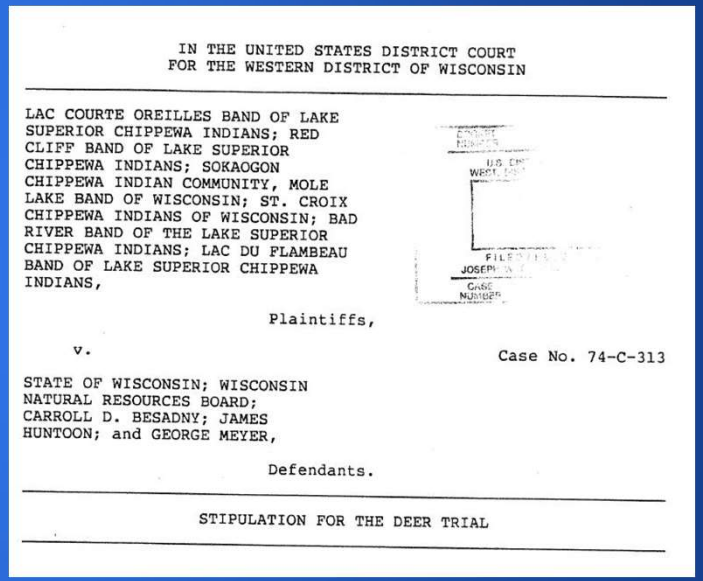
Tribes' Treaty Rights Vindicated in Suits Against States

Photo: Drum ceremony at the Seventh Circuit during proceedings in the *LCO v. Wisconsin* case. Ojibwe cultural traditions continue to be critical to tribal sovereignty

- "Treaty rights" are those pre-existing rights that the tribes reserved in treaties
- Tribes are in charge of regulating "treaty rights" related activities
  - As long as they **effectively** regulate their people and **protect** legitimate State conservation, health and safety interests.
- Tribes retain civil regulatory jurisdiction over on-reservation activities
- Issues of food production have not been entirely resolved

LCO Case Stipulations on Food Processing

- Stipulations are agreements made by litigants to avoid trial
- In the *Lac Courte Oreilles v. Wisconsin* case (off-reservation treaty rights case) the Tribes and the State of Wisconsin made agreements about the regulation of food processing for commercial sale of treaty-harvested venison and inland fish.



IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF LAKE SUPERIOR CHIPPEWA INDIANS; RED CLIFF BAND OF LAKE SUPERIOR CHIPPEWA INDIANS; SOKAOGON CHIPPEWA INDIAN COMMUNITY, MOLE LAKE BAND OF WISCONSIN; ST. CROIX CHIPPEWA INDIANS OF WISCONSIN; BAD RIVER BAND OF THE LAKE SUPERIOR CHIPPEWA INDIANS; LAC DU FLAMBEAU BAND OF LAKE SUPERIOR CHIPPEWA INDIANS,

Plaintiffs,

v.

Case No. 74-C-313

STATE OF WISCONSIN; WISCONSIN NATURAL RESOURCES BOARD; CARROLL D. BESADNY; JAMES HUNTOON; and GEORGE MEYER,

Defendants.

STIPULATION FOR THE DEER TRIAL

The Stipulation for the Deer Trial was submitted to the Court in 1989

LCO Case Stipulations on Food Processing, cont.

- The parties agreed that ***state regulation would apply*** "both on- and off-reservation, in the interest of public health" ***if*** the products would be meant for ***consumption by nonmembers***.
- The state's regulations would ***not*** apply, however, ***if*** the Tribes adopted "***corollary regulations***" and "employ[ed] ***trained and qualified personnel*** to enforce such regulations."
- This means that the ***adoption of tribal food processing regulations*** and ***tribal enforcement (i.e. licensing, inspections, etc.) of those regulations*** is key to move forward on commercial sale of treaty-harvested meat and fish.

Foundations for Tribal Food Regulations

Legal/Regulatory
- How are various types of foods regulated by tribal, state and federal agencies?
- What is the current status of wild-harvested foods?

Tribal customary practices
- How do tribal members harvest/process their foods?
- What food safety practices are already in place?
- What is the tribal law around specific foods?

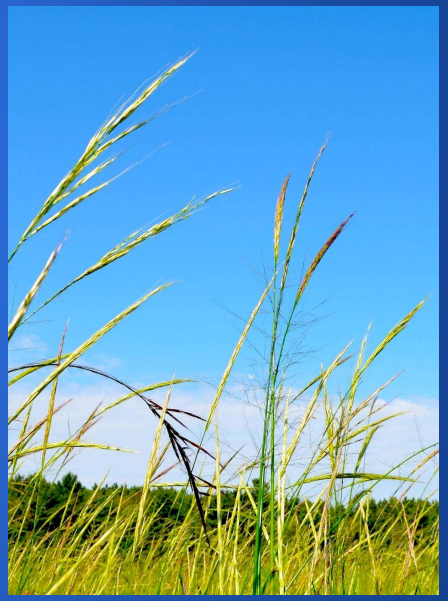
Environmental/Biological
- What food safety risks are associated with traditional foods: chemical, biological and physical?
- What has been published?
- What research is needed?

Sonosky law firm research on food regulation in the U.S.

- Year One Report focused on the current ways in which Ojibwe traditional foods are regulated by federal, tribal, state and local governments.
- Year Two Report looked at packaging, labeling and sales requirements for Ojibwe traditional foods
- In year three, Sonosky created a summary report for tribal councils

Summary of findings

- Licensing and inspections are key elements. Food producers, transporters and vendors are accustomed to paying upfront fees to operate food businesses. These fees fund staff time for inspections and other administrative duties.
- Standards on sanitation (SSOP, GMP), training, food safety hazards (HACCP) or something similar, and accurate labeling are required.
- Food-related businesses are required to create and maintain records related to their compliance with regulations.



Anishinaabe Inakonigewin (Law)

Photo: Midewewin ceremony near Whitefish, LCO; taken by an anthropologist in 1910.

All aspects of creation (including humans) received original instructions from the Creator.

As long as the people continue to adhere to those original instructions (i.e. responsibilities), they will maintain their cultural distinctiveness, inherent sovereignty and rights to their traditional territories.

These fundamental teachings are considered the original treaties.

"Mino bimaadiziwin"

Aadizokaanag on Traditional Foods

Food is prominently featured in Anishinaabe inaakonigewin

Example: Wenaboozhoo story on maple syrup production (many others!)

Maple syrup and sugar are indigenous foods, and knowledge about their production derives from indigenous TEK food science

Photo: Bad River Tribal Member Jerome Powless hauling maple sap

Incorporation of Tribal Law (Aadizokaanag)

Patience and hard work are values associated with processing maple syrup

- Labeling standards
  - 3.02 Debwewin; Truth in Labeling
    Maple syrup shall not be labeled "traditionally processed Ojibwe maple syrup" unless the contents of the package **consist entirely of maple sap that was condensed into syrup by the heating of the sap over a wood-burning fire,** however a **final boil of the sap may occur using a heating element other than a wood-burning fire.**

Model Treaty-Harvested Food Codes

- Created "corollary" food safety standards for the processing of 16 Ojibwe foods:
  - White-tailed deer (venison)
  - Rabbit
  - Duck
  - Turkey
  - Whitefish
  - Walleye
  - Fresh berries/berry jams and jellies
  - Wild leeks, beach peas, hazelnuts, morel mushrooms
  - Wild rice
  - Maple syrup
  - Animal fat and jerky
- Addresses risks identified in scientific research; tailored to Ojibwe practices; no more restrictive than federal or state regulations.

<u>Organizational Structure</u>

Chapter 1: Purpose and Powers

Chapter 2: Definitions

Chapter 3: General Provisions

Chapter 4: HACCP

Chapter 5: Meat

Chapter 6: Fish

Chapter 7: Produce

Chapter 8: Low-Risk Foods

Tribal Jurisdiction

- Tribes maintain civil regulatory jurisdiction
  - Over tribal members, tribal governmental activities, **where tribal law exists**
- In general, tribes' civil jurisdiction is more limited:
  - Off reservation
  - On reservation on lands owned by others
  - Where non-Natives are involved (as consumers or producers)
- Tribes' reserved rights include commercial harvesting
  - 3 major commercially-available foods

Jurisdiction in the Model Food Processing Code

- Applies to all individuals and facilities involved in the production of treaty-harvested foods for commercial sale, **but not:**
  - Informal commercial and community feasts
  - Home use
  - Sale of whole deer and elk carcasses
- Territorial jurisdiction extends to the Ceded Territories (excluding Menominee Reservation) and any other area as permitted by law.

Group Exercise: Definitions (Chapter 2)

Model Food Code Definitions (Chapter 2)

Please look over Chapter 2 (Definitions)

- Find one word/definition that you're already familiar with
- Find one word/definition that surprised you
- Find one word/definition that you'd like to know more about

Share with us one or more of these definitions

Summary of Session One

- The overall goal : provide Ojibwe governments tools to make traditional foods more accessible
- The adoption of law governing food production is key
- These laws need to address food safety risks and be consistent with Ojibwe customs
- The GLIFWC Model Food Processing Code applies to important Ojibwe foods
- Chapter 2 of the Code contains definitions, which include words and ideas that are Ojibwe and words and ideas that are commonly used in the U.S. by food regulators

Questions and Feedback?

Next Unit:

Contaminants and Food Safety

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 2:
Contaminants & Food Safety

Course Objectives

- Overview of food safety and contaminant risks related to traditional foods from the Interest List

- Understand components of a food safety system and how they work together
  - Good Manufacturing Practices (GMP)
  - Standard Sanitation Operating Procedures (SSOP)
  - Hazard Analysis and Critical Control Point (HACCP)

Purpose of a Food Regulatory System & Food Safety

- To provide safe and wholesome foods for consumption

This is done through regulation and implementation of food safety systems.

  - Food is made or kept safe for consumption by managing risk through reducing food related hazards

IDENTIFIED TRADITIONAL FOODS LIST

Food	*Classification*
White-Tail Deer	Large Game
Rabbit/Hare	Small Game
Duck	Migratory Birds
Turkey	Upland Game Birds
Whitefish	Great Lake Fish
Walleye	Inland Fish
Fresh Berries	Fruit
Wild Leeks/Ramps	Bulb Vegetable
Wild Beach Pea	Legume
Hazelnut	Tree nut
Morel Mushroom	Fungi
Wild Rice	Grain
Berry Jams/Jellies	Value Added
Maple Syrup	Value Added
Animal Fat	Value Added
Venison Jerky	Value Added

Food Safety Risks

- Foods inherently carry risk
  - Both raw food and processed foods have associated risks

- Risks can be broadly categorized as:
  - **Biological:** bacteria, viruses, etc.
  - **Chemical:** natural toxins, added toxic chemicals, allergens, etc.
  - **Physical:** metal inclusion, glass inclusion, etc.

- Reducing risk is a large part of food preparation and processing

Biological Hazard Overview

- 2018: project staff completed a review of scientific literature to identify known and unknown contaminant and food safety risks of the traditional foods from the Interest List.

- Traditional foods carry many of the same risks as conventional foods (e.g. bacteria, disease, etc.)

  - Training Manual page 14 - "2018 Traditional Food Contaminant and Food Safety Report"

TABLE 2: THIS MATRIX OUTLINES BIOLOGICAL, CHEMICAL, AND PHYSICAL HAZARDS ASSOCIATED WITH IDENTIFIED TRADITIONAL FOODS.

		HAZARDS				
		BIOLOGICAL				
Common Name	Scientific Name	Pathogen	Disease / Virus	Parasite	Prion (CWD)	Allergen
Large/Small Game						
White-tailed Deer	*Odocoileus virginiatus*	X	X	X	X	
Snowshoe Hare	*Lepus americanus*	X	X	X		
Cottontail Rabbit	*Sylvilagus floridanus*	X	X	X		
Birds						
Ducks/divers						
Scaup/ Bluebill	*Aythya affinis; A. marila*	X	X	X		
Ring-necked Duck	*Aythya collaris*	X	X	X		
Duck/dabblers						
Blue-winged Teal	*Anas carolinensis*	X	X	X		
Green-winged Teal	*Anas discors*	X	X	X		
Mallard	*Anas platyrhynchos*	X	X	X		
Wood Duck	*Aix sponsa*	X	X	X		
Upland						
Wild Turkey	*Meleagris gallopavo*	X	X			
Fish						
Walleye	*Sander vitreus*	X		X		X
Whitefish	*Coregonus clupeaformis*	X		X		X
Plants/ Fungi						
Wild Strawberry	*Fragaria vesca*	X				
Wild Raspberry	*Rubus idaeus*	X				
Wild Blueberry	*Vaccinium angustifolium*	X				
Wild Blackberry	*Rubus allegleniensis*	X				
Highbush Cranberry	*Viburnum opulus*	X				
Wintergreen	*Gaultheria procumbens*	X				
Elderberry	*Sambucus canadensis*	X				
Wild Ramps/Leeks	*Allium tricoccum*	X				
Hazelnuts	*Corylus americana*	X				X
Beach Pea	*Lathyrus japonicus*	X				
Wild Rice	*Zizania palustris*	X				
Morel Mushroom	*Morchella esculenta*	X				
Value Added						
Maple Syrup	*Acer saccharum*	X				
Jams/Jellies	Various species	X				
Venison Jerky	*Odocoileus virginiatus*	X	X	X	X	X
Animal Fat (duck)	*Anas spp.*	X				
		Pathogen	Disease / Virus	Parasite	Prion (CWD)	Allergen

Chemical & Physical Hazard Overview

- Training Manual Page 15- "2018 Traditional Food Contaminant and Food Safety Report"

Exercise: Look over Table 2 on pages 14-15 in training manual. Using your microphone or the chat please answer the following:

1. Please list the biological, chemical, and physical hazards associated with Cottontail Rabbit?
2. Use your manual to find *Tularemia*. Please read provide one fact on *Tularemia*.

TABLE 2: THIS MATRIX OUTLINES BIOLOGICAL, CHEMICAL, AND PHYSICAL HAZARDS ASSOCIATED WITH IDENTIFIED TRADITIONAL FOODS. (CONTINUED FROM PREVIOUS PAGE)

		HAZARDS				
		CHEMICAL			PHYSICAL	
Common Name	Scientific Name	Heavy Metal	Chemical / Pesticide	Natural Toxin	Bullet Fragment	Shot Pellet
Large/Small Game						
White-tailed Deer	*Odocoileus virginiatus*	X	X		X	
Snowshoe Hare	*Lepus americanus*	X	X		X	X
Cottontail Rabbit	*Sylvilagus floridanus*	X	X		X	X
Birds						
Ducks/divers						
Scaup/Bluebill	*Aythya affinis; A. marila*	X	X			X
Ring-necked Duck	*Aythya collaris*	X	X			X
Duck/dabblers						
Blue-winged Teal	*Anas carolinensis*		X			X
Green-winged Teal	*Anas discors*		X			X
Mallard	*Anas platyrhynchos*		X			X
Wood Duck	*Aix sponsa*		X			X
Upland						
Wild Turkey	*Meleagris gallopavo*	X				X
Fish						
Walleye	*Sander vitreus*		X			
Whitefish	*Coregonus clupeaformis*		X			
Plants						
Wild Strawberry	*Fragaria vesca*		X			
Wild Raspberry	*Rubus idaeus*	X				
Wild Blueberry	*Vaccinium angustifolium*	X	X			
Wild Blackberry	*Rubus allegheniensis*	X				
Highbush Cranberry	*Viburnum opulus*					
Wintergreen	*Gaultheria procumbens*					
Elderberry	*Sambucus canadensis*			X		
Wild Ramps/Leeks	*Allium tricoccum*					
Hazelnuts	*Corylus americana*					
Beach Pea	*Lathyrus japonicus*	X		X		
Wild Rice	*Zizania palustris*	X				
Morel Mushroom	*Morchella esculentoides*	X				
Value Added						
Maple Syrup	*Acer saccharum*	X				
Jams/Jellies	Various species					
Venison Jerky	*Odocoileus virginiatus*	X			X	
Animal Fat (duck)	*Anas spp.*	X	X	X		
		Heavy Metals	Chemical / Pesticide	Natural Toxin	Bullet Fragment	Shot Pellet

Diving Deeper

1

- During the literature review for the “2018 Traditional Food Contaminant and Food Safety Report” project staff identified 3 major gaps in scientific knowledge and data.
  - Wild rice and inorganic arsenic
  - Tribally harvested maple syrup and lead from equipment
  - Lead exposure from ammunition used to harvest wild turkey
- These gaps lead to a 2019 study
  - Study results are available in the “Addendum” document

1 why tribally here and not on all 3?
LaTisha Coffin, 8/19/2020

1 That is a good question. Lead in maple syrup from harvesting & processing equipment is well documented. However, there is no information on lead in maple syrup produced in ceded territory and specifically among tribal members.
There is a thought that tribally produced syrup may be at an elevated risk due to economics and the prevalence of inherited equipment. So that research was population specific, as I understand it. This is the not the case for wild rice and turkey. At the time of the literature review, there was insufficient data world wide on inorganic arsenic in wild rice or lead from ammo in turkey. So the studies we did on those topics are not population specific.
Owen Schwartz, 8/19/2020

2019 Study Results - Wild Rice

- Wild Rice:
  - 40 samples
    - Finished wild rice seeds harvested and processed by Ojibwe tribal members do not contain lead, zinc, cadmium, total mercury, copper, magnesium, total chromium, selenium, and total and inorganic arsenic concentrations in any amount that would be of negative impact to human health, in either cooked or dry form

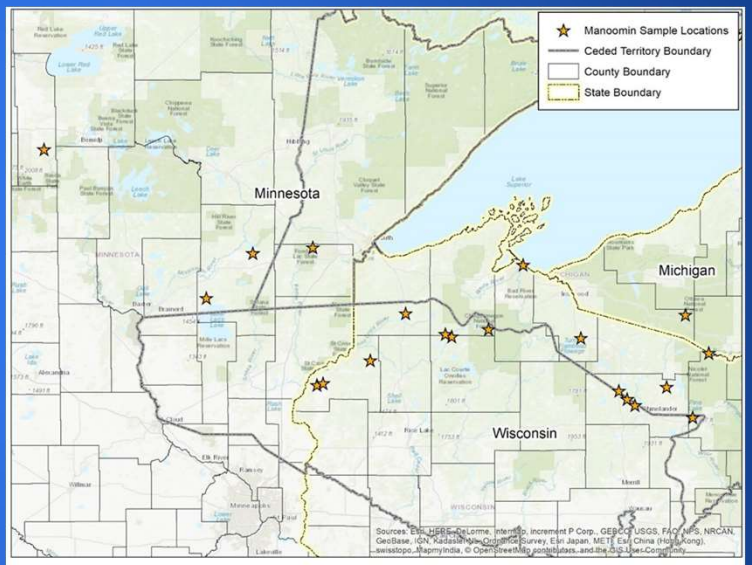


Figure 2. Wild rice samples for heavy metals testing were collected from natural beds located in the 1842, and 1854 treaty territories. However, three sample were collected outside ceded territory boundaries.

2019 Study Results - Maple Syrup

2

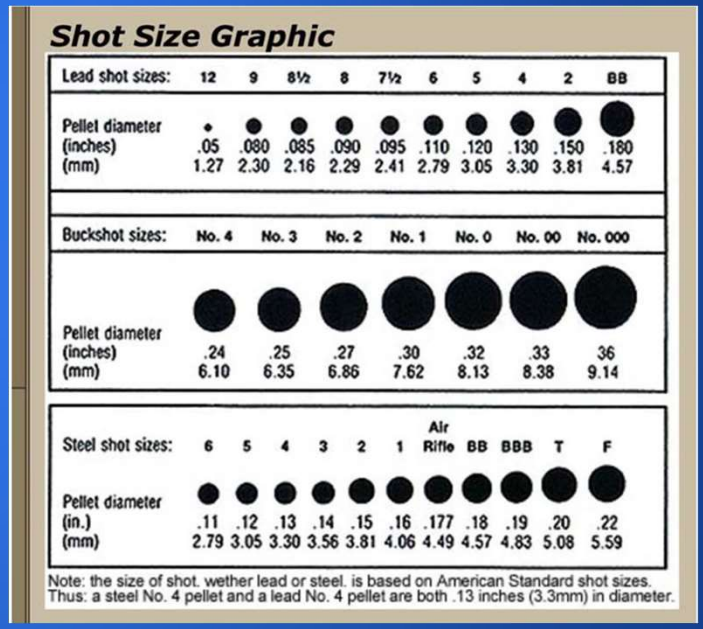
- Maple Syrup:
  - 29 samples
  - Maple sap harvested and processed by Ojibwe tribal members into syrup does not contain lead concentrations that would be harmful to human health using the Canadian Maximum Residue Limit of (0.5 ppm) for lead in maple syrup.
    - The US does not have an action level for lead in maple syrup
  - Processing equipment can impact lead concentrations in maple syrup and other foods.
    - Lead and lead solder are not recommended for food contact surfaces

Slide 33

2 add pic of maple syrup equipment for reference
LaTisha Coffin, 8/18/2020

2019 Study Results - Wild Turkey

- Wild Turkey:
  - 30 birds sampled
  - Harvesting with smaller size No. 8 and No. 6 shot increased lead content found in the breast meat.
  - Larger shot reduces lead contamination risk
  - Turkey harvested with larger size No. 5 copper coated lead shot were found to test below laboratory detection limits.



Regulatory Impact Contaminant Information

Example:

- Harvest tools
  - Lead free ammunition (required)
  - Food contact surfaces and implements made out of food-grade or nontoxic materials (required)
- Air temperature at time of harvest (cooler temps required for harvesting meat animals)
- Inspection within 24 hours of kill (if required)
  - Deer harvested in Chronic Wasting Disease Management Areas will need to be tested

HARVESTER CERTIFICATE OF GUARANTEE (VENISON)

Commercial Tag No._____
Tribal Disease Management Area Tag No. _____
Only applicable to deer harvested in Tribal Disease Management Areas
Name of the Tribal Member Harvester: _____
NAGFA Id. No.: _____

Pre-mortem Inspection Information Record
Required for Class 2 and 3 Sales Only
Condition and behavior of animal at rest, and in motion:
Overall condition of the animal, especially the head, eyes, leg and body: (normal, or describe) _____

Alertness, mobility and breathing (normal, or describe): _____

Presence of any unusual swelling, signs of injury or other abnormalities? (N/A, or describe) _____

Displaying any abnormal behavior? _____ If so, describe: _____

Normal gait, normal grazing activity, alert to danger: yes/no (circle one)

Alive, when harvested: yes/no (circle one)

□ Unable to walk due to broken appendages, severed tendons or ligaments, nerve paralysis or fractured spine (circle as applicable).

Time of Kill Information
Required for All Classes of Sale
Date: _____
Time: _____
DMU: _____
Air temp: _____
Manner of killing:
Bow/arrow __
Crossbow __
Rifle __
Type of shot used (if applicable): _____
Nontoxic shot is required.
□ Was harvested within a Tribal Disease Management Area for Chronic Wasting Disease (CWD) or Bovine Tuberculosis (TB).

Humane Handling Certification
Required for All Classes of Sale
□ The animal was killed in a swift and efficient manner consistent with the methods approved by my Tribe's conservation codes.
□ The animal was not shackled, hoisted, thrown or cast until the animal was stunned or killed in a manner that caused permanent unconsciousness or death.

Field Dressing Certification:
Required for All Classes of Sale
□ All personnel engaged in field dressing the animal wore clean, washable outer clothing and food handling gloves, with any long hair covered or tied back; and all personnel washed and rinsed their hands sufficiently during the operations to prevent contamination of the carcass.
□ Equipment and utensils used for field dressing were made of sanitary design and construction, and were kept clean and sanitary (free from contamination by soil, vermin, insects, vermin and waste products) prior to, and during, field dressing.
□ Prior to making any incisions into the carcass, loose dirt and debris was cleaned from the carcass, and the carcass was placed on a non-permeable, clean and sanitized surface (i.e. clean and sanitized tarp, game processing table, etc.).

Components of Food Safety Processing

HACCP Plan
Management plan to analyze critical hazardous factors set Critical Control Point, establish limitations, set-up monitoring method, set-up improvement plan, set-up verification process, maintain record and control documents.

SSOP (Sanitation standard operating procedures)
Operating procedures for general sanitation management operation standard, office management, water control, storage and transportation supervision, inspection, recalls.

GMP (Good Manufacturing Practice)
Operating procedures for general sanitation management peration standard, office management, water control, storage and transportation supervision, inspection, recalls.

Definitions

- **Food contact surface(s)**: any surface that comes into contact with food, and those surfaces from which drainage may leak onto food or food contact surfaces.
  - Examples: work table, utensils, food service gloves, food containers, shelving in cooler unit
- **Ready to Eat (RTE)**: refers to foods that ready to consume as is and do not need any additional cooking.
  - Examples: fresh berries, cooked meat, bread, jerky
- **Cross Contamination**: the process of transferring pathogens from one surface to another.
  - Example: Using tongs to move raw turkey to a baking pan, then using the same tongs to move muffins to a platter without cleaning and sanitizing tongs

Definitions, continued

- **Adulteration**: bears or contains poisonous or deleterious substances, either naturally occurring or added to food. Adulteration also includes the addition of unapproved substances to food and handling or holding food in ways that could make the food unsafe.
  - Examples: lead bullet fragments, storing raw meat at room temperature, using unclean hands or utensils to handle food.

GMP Requirements

Facility-wide requirements to design and maintain a food safe environment

Chapter 3.06 & 3.11 (4-8)

- General maintenance of physical facilities
- Cleaning and sanitizing of equipment and utensils
- Storage and handling of clean equipment and utensils
- Pest control
- Proper use and storage of cleaning compounds, sanitizers, and pesticides
- Employee training
- Plant design
- Quality assurance assessment

Photo Credit: San Antonio Food Bank

Photo Credit: Spoon University

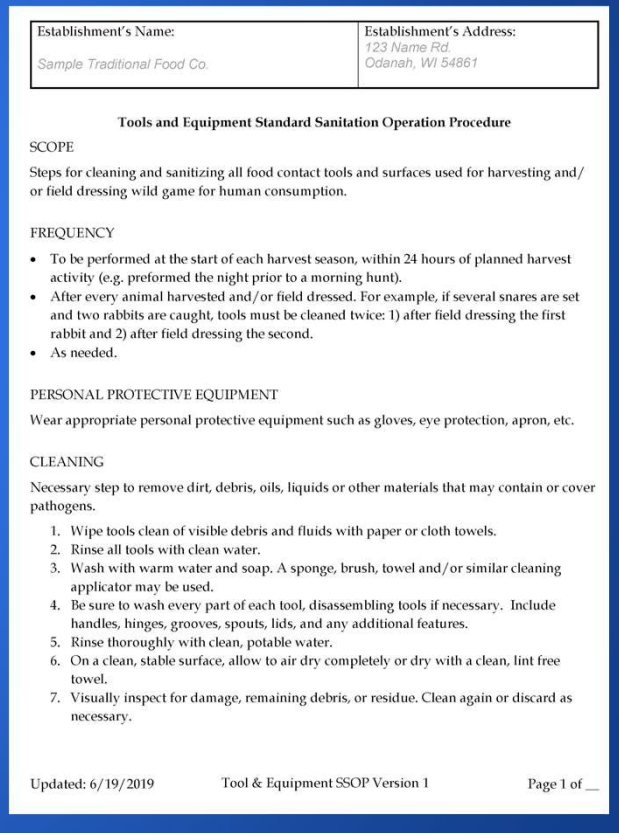
Current Good Manufacturing Practices

Current Good Manufacturing Practices (cGMP)

- Focus on reducing cross contamination and employee hygiene
- Includes:
  - Employee food handling and personal hygiene training
  - Inspection of employee hygiene and work habits
  - Proper maintained sanitary facilities and supplies

Standard Sanitation Operating Procedures

- SSOPS are the specific, written procedures necessary to ensure sanitary conditions in the establishment, before, during, and after operations
- Are used to meet the requirements of GMPs
- They address the details of maintaining sanitary processing environments and employee practices



Establishment's Name:	Establishment's Address:
Sample Traditional Food Co.	*123 Name Rd.* *Odanah, WI 54861*

Tools and Equipment Standard Sanitation Operation Procedure

SCOPE

Steps for cleaning and sanitizing all food contact tools and surfaces used for harvesting and/or field dressing wild game for human consumption.

FREQUENCY

- To be performed at the start of each harvest season, within 24 hours of planned harvest activity (e.g. preformed the night prior to a morning hunt).
- After every animal harvested and/or field dressed. For example, if several snares are set and two rabbits are caught, tools must be cleaned twice: 1) after field dressing the first rabbit and 2) after field dressing the second.
- As needed.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate personal protective equipment such as gloves, eye protection, apron, etc.

CLEANING

Necessary step to remove dirt, debris, oils, liquids or other materials that may contain or cover pathogens.

1. Wipe tools clean of visible debris and fluids with paper or cloth towels.
2. Rinse all tools with clean water.
3. Wash with warm water and soap. A sponge, brush, towel and/or similar cleaning applicator may be used.
4. Be sure to wash every part of each tool, disassembling tools if necessary. Include handles, hinges, grooves, spouts, lids, and any additional features.
5. Rinse thoroughly with clean, potable water.
6. On a clean, stable surface, allow to air dry completely or dry with a clean, lint free towel.
7. Visually inspect for damage, remaining debris, or residue. Clean again or discard as necessary.

8 Areas of Sanitation

8 Areas for Sanitation in GLIFWC Model Code

1. Safety of water which comes into contact with food or food surfaces
2. Condition and cleanliness of food contact surfaces
3. Prevention of cross contamination
4. Maintenance of hand washing stations, hand sanitizing, and toilet facilities
5. Protecting food and food contact surface from adulterants
6. Proper use and storage of toxic chemicals used in the facility
7. Pest control measures
8. Where employee health may be a biological risk to food, controlling access to food and food surfaces

SSOPs and the Model Food Code

Chapter 3.08

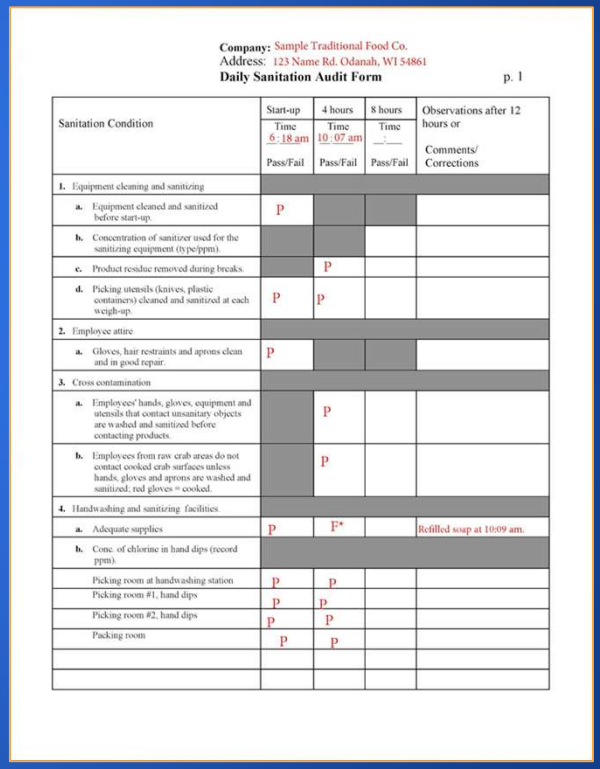
- Required for:
  - Tribally Licensed food facility
  - Retail food establishment
  - Class 1 meat or fish processor

- Must be written
- Must be monitored
- Sanitation control records must be kept as facility records or monitored and documented as part of HACCP plan implementation

SSOP Specification

SSOPs are:

- Specific to the location
- Specific to the establishment
- Must be signed by the establishment authority
- Requires monitoring activities
- Recordkeeping is required
- Must be routinely evaluated for effectiveness



Company: Sample Traditional Food Co.
Address: 123 Name Rd. Odanah, WI 54861
Daily Sanitation Audit Form p. 1

Sanitation Condition	Start-up Time 6:18 am Pass/Fail	4 hours Time 10:07 am Pass/Fail	8 hours Time __:__ Pass/Fail	Observations after 12 hours or Comments/ Corrections
1. Equipment cleaning and sanitizing				
a. Equipment cleaned and sanitized before start-up.	P			
b. Concentration of sanitizer used for the sanitizing equipment (type/ppm).				
c. Product residue removed during breaks.		P		
d. Picking utensils (knives, plastic containers) cleaned and sanitized at each weigh-up.	P	P		
2. Employee attire				
a. Gloves, hair restraints and aprons clean and in good repair.	P			
3. Cross contamination				
a. Employees' hands, gloves, equipment and utensils that contact unsanitary objects are washed and sanitized before contacting products.		P		
b. Employees from raw crab areas do not contact cooked crab surfaces unless hands, gloves and aprons are washed and sanitized; red gloves = cooked.		P		
4. Handwashing and sanitizing facilities.				
a. Adequate supplies	P	F*		Refilled soap at 10:09 am.
b. Conc. of chlorine in hand dips (record ppm).				
Picking room at handwashing station	P	P		
Picking room #1, hand dips	P	P		
Picking room #2, hand dips	P	P		
Packing room	P	P		

SSOP Examples

Attachment 4

SAMPLE – SANITATION STANDARD OPERATING PROCEDURE (SSOP)

XYZ Meat Packers, Inc. is a red meat processing establishment. This plant receives beef and pork for further processing. This plant cuts and grinds product and also packages it.

MANAGEMENT STRUCTURE
Owner –
Plant Manager –
Team Captains –

The Team Captains are responsible for implementing and daily monitoring of Sanitation SOP and recording the findings and any corrective actions. The Team Captains are responsible for training and assigning specific duties to other employees and monitoring their performance within the Sanitation SOP. All records, data, checklists, and other information pertaining to the Sanitation SOP will be maintained on file and made available to inspection personnel.

I. Preoperational Sanitation – Equipment and Facility Cleaning Objective
   A. All equipment will be disassembled, cleaned, and sanitized before starting production.
      1. Establishment sanitary procedure for cleaning and sanitizing equipment.
         a. All equipment will have product debris removed.
         b. Equipment will be rinsed with water to remove remaining debris.
         c. An approved cleaner will be applied to equipment and properly cleaned.
         d. Equipment will be sanitized with approved sanitizer and rinsed with potable water.
         e. The equipment is reassembled.
      2. Implementing, Monitoring and Recordkeeping
         Team Captains perform daily organoleptic sanitation inspection after preoperational equipment cleaning and sanitizing. The results will be recorded on a Preoperational sanitation form. If found to be acceptable, the appropriate line will be checked. If corrective actions are needed, such actions will be documented.
      3. Corrective Actions
         The Team Captains determines that the equipment on hand does not pass organoleptic examination, the cleaning procedure and inspections are repeated. The Team Captains monitor the cleaning of the equipment on hand and retrains employees if necessary. Corrective actions are recorded on Pre-Operational sanitation forms.
   B. Cleaning of Facilities including floors, walls, and ceilings.
      1. Cleaning procedures:
         a. Debris is swept up and discarded.
         b. Facilities are rinsed with potable water.
         c. Facilities are cleaned with approved cleaner.
         d. Facilities are rinsed with potable water.
      2. Cleaning of floors and walls are done at the end of each production day. Ceilings are cleaned as needed.
      3. Establishment monitoring
         The Team Captain performs daily organoleptic inspection before operation begins. Results are recorded on a preoperational sanitation form.

Establishment's Name:	Establishment's Address:
Sample Traditional Food Co.	*123 Name Rd.* *Odanah, WI 54861*

Tools and Equipment Standard Sanitation Operation Procedure

SCOPE

Steps for cleaning and sanitizing all food contact tools and surfaces used for harvesting and/or field dressing wild game for human consumption.

FREQUENCY

- To be performed at the start of each harvest season, within 24 hours of planned harvest activity (e.g. preformed the night prior to a morning hunt).
- After every animal harvested and/or field dressed. For example, if several snares are set and two rabbits are caught, tools must be cleaned twice: 1) after field dressing the first rabbit and 2) after field dressing the second.
- As needed.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate personal protective equipment such as gloves, eye protection, apron, etc.

CLEANING

Necessary step to remove dirt, debris, oils, liquids or other materials that may contain or cover pathogens.

1. Wipe tools clean of visible debris and fluids with paper or cloth towels.
2. Rinse all tools with clean water.
3. Wash with warm water and soap. A sponge, brush, towel and/or similar cleaning applicator may be used.
4. Be sure to wash every part of each tool, disassembling tools if necessary. Include handles, hinges, grooves, spouts, lids, and any additional features.
5. Rinse thoroughly with clean, potable water.
6. On a clean, stable surface, allow to air dry completely or dry with a clean, lint free towel.
7. Visually inspect for damage, remaining debris, or residue. Clean again or discard as necessary.

Sample Checklist

July 2000 **Sanitation Audit Form** Page 1 of 2

Form used for both daily and monthly sanitation activities

Firm Name:_____ Address:_____

Date:_____ Supervisor/Technician:_____

Sanitation Conditions & Practices	Time Pre-Op Pass/Fail	Time Pass/Fail	Time Pass/Fail	Time Monthly Pass/Fail	Comments
1. Safety of water					
A. City water: annual verification (on file)					
B. No cross-connections between potable and wastewater systems					
2. Condition and cleanliness of food-contact surface					
A. Processing equipment and utensils in suitable condition					
B. Equipment cleaned and sanitized before start-up					
1. Concentration of chlorine used for sanitizing equipment (ppm)					
C. Product residue removed from equipment during breaks					
D. Ready-to-eat-product equipment cleaned and sanitized during breaks					
E. Gloves and aprons in good repair					
3. Cross contamination					
A. Physical condition of plant and layout of equipment suitable to minimize risk of contamination					
B. Employees' hands, gloves, equipment and utensils that contact unsanitary objects are washed and sanitized before contacting product					
C. Employee in raw-product area wash and sanitize hands, gloves and aprons before moving to cooked-product area					

Slide 45

1 I found one -- emailing you
Philomena Kebec, 8/24/2020

2 Thanks!!
Owen Schwartz, 8/24/2020

Hazard Analysis & Critical Control Point (HACCP)

- A management tool used to monitor and protect a food product, before, during and after, processing.
- Addresses food safety issues around **a specific food product or processing line**
- Monitors food safety in 3 main areas
  - Biological
  - Chemical
  - Physical
- Designed to minimize the risk of food hazards but may not reduce the hazards to zero
- Documents the active protect of food from contaminants

HACCP teaches processors to look critically at their food process through the lens of science and investigation

HACCP include 7 Principles

1. Conduct a hazard analysis
2. If hazards are identified, determine critical control points in the process
3. Establish critical limits
4. Establish monitoring procedures
5. Establish corrective actions
6. Establish verification procedures
7. Establish recordkeeping procedures

HACCP and the Model Food Code

Chapter 4

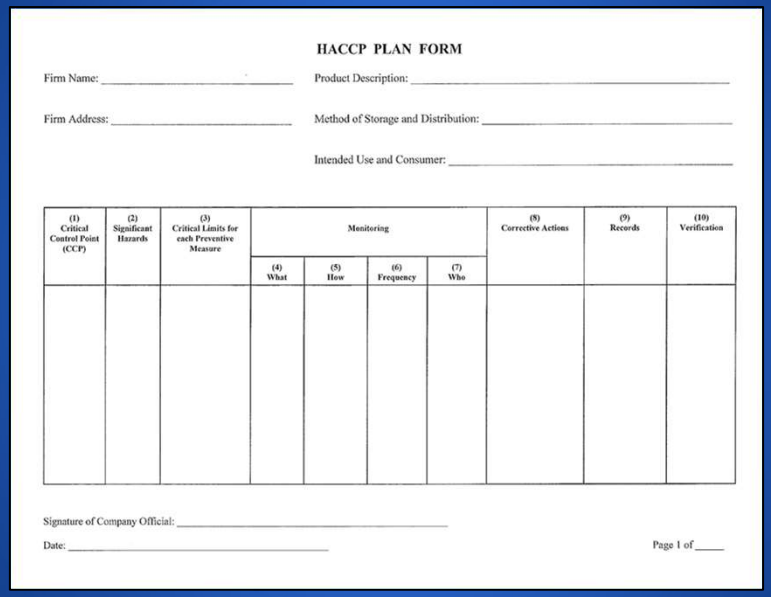
- HACCP plans are required when a hazard is identified through the Hazard Analysis
- HACCP Records include:
  - Written hazard analysis
  - Written HACCP plans
  - Critical control point and critical limit supporting documents
  - Monitoring records of critical control points
  - Corrective action plans (optional)
  - Documentation of corrective actions taken (required)

HACCP and the Model Food Code

- All food processing plants and class 1 meat/fish vendors must:
  - Conduct a hazard analysis for each raw and finished food product processed by the plant
  - Identify preventive control measure to control hazards identified in the hazard analysis

- Training: Training on HACCP, or equivalent job experience, is required to develop or amend a HACCP plan, and to conduct a records review required for HACCP implementation. Currently, GLIFWC offers an annual fish HACCP training course each fall.

Blank HACCP Plan Form Examples



HACCP PLAN FORM

Firm Name: _____ Product Description: _____

Firm Address: _____ Method of Storage and Distribution: _____

Intended Use and Consumer: _____

(1) Critical Control Point (CCP)	(2) Significant Hazards	(3) Critical Limits for each Preventive Measure	Monitoring				(8) Corrective Actions	(9) Records	(10) Verification
			(4) What	(5) How	(6) Frequency	(7) Who			

Signature of Company Official: _____

Date: _____ Page 1 of ____

HACCP PLAN FORM

Firm Name	Product Description:
Firm Location	Method of Storage & Distribution:
	Intended Use & Consumer:

Critical Control Point (CCP)		
Significant Hazard(s)		
Critical Limits for each Control Measure		
Monitoring	What	
	How	
	Frequency	
	Who	
Corrective Action		
Verification		
Records		

Signature:	Date:

Group Activity - Breakout Rooms

In a moment you will be put into a breakout group to discuss the following.

How do Good Manufacturing Practices (GMPs), Standard Sanitation Operating Procedures (SSOPs), and Hazard Analysis and Critical Control Point (HACCP) work together to help create safe foods?

Class Exercise

Use the training manual and what you learned during this session to answer the following 3 questions:

1. **What are differences between Standard Sanitation Operating Procedures (SSOPs) and Hazard Analysis Critical Control Points (HACCP)?**
2. **Which Model Food Code chapter refers to SSOPs? Which for HACCP?**
3. **Using the training manual, list the hazards identified in the "cold storage of Fish" Processing Step and "Weigh, Pack, & Label" Processing Step of Whitefish Model HACCP Plan for Frozen Fillet-Reduced Oxygen Packaging" (starts on pg 475).**

Questions and Feedback?

Next Unit:

General Provisions

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 3:
General Provisions

Unit Objectives

- Understand the basic components of the Model Food Code related to:
  - General food safety
  - Labeling requirements
  - Facility standards
  - Licensing and Enforcement

Model Food Code Structure

- Chapter 1- Purpose and Power
- Chapter 2- Food Code Definitions
- Chapter 3- General Provisions
- Chapter 4- HACCP
- Chapter 5- Meat
- Chapter 6- Fish
- Chapter 7- Produce
- Chapter 8- Low-Risk Foods

Foundations of the Model Food Code

- 3.01 Zhawenindiwag: Respect for Traditional Foods and Consumers:
  - All foods are to be handled in a respectful manner and in order to prevent adulteration and remain consistent with our cultural traditions
  - All foods sold or donated must be amenable wild-harvest foods
  - No adulterated food may be donated or sold

Amenable wild-harvest food - Ojibwe food that is safe, wholesome and unspoiled.

State/Federal Food Safety Standards

State/Federal Standard	Every-day meaning
Adulteration	Food needs to be clean, wholesome & safe
Misbranding	Food label needs to be accurate
Food Processing Plants	Food needs to be prepared in a facility that is safe, sanitary and secure
Meat Inspection (not applicable to fish)	Food from animals needs to be checked for potential disease or spoilage to make sure its safe for human consumption
Preservatives, artificial colors, food additives	Food processors can only use certain additives to foods and they must be safe

Regulations vary based on food safety risk of product and market served

- **Class 1** = sales from tribal member to tribal member, on reservation
- **Class 2** = sales to tribal institutions and programs
- **Class 3** = retail sales, on and off reservations, to both tribal and non-tribal members

*All commercial harvesters must comply with Off-Reservation Conservation Code requirements regarding Records of Commercial Transactions

Some meat and fish products may be produced outside of tribally-licensed food processing plants. The types of products that can be produced in informal facilities are limited to those that carry lower food safety risks.

MN Rules of Professional Professional Conduct

- **Class 1** = sales from tribal member to tribal member, on reservation
  - ALTERNATIVE 1
- Class 1 = sales from tribal member to tribal member (any tribe), on (or off) reservation
  - ALTERNATIVE 2
- Class 1 = direct sales to individuals (anyone), on reservation

Rule 1.2 Scope of Representation and Allocation of Authority Between Client and Lawyer

(a)Subject to paragraphs (c) and (d), a lawyer shall abide by a client's decisions concerning the objectives of representation and as required by Rule 1.4, shall consult with the client as to the means by which they are to be pursued. A lawyer may take such action on behalf of the client as is impliedly authorized to carry out the representation.

Labeling - General

- 3.02 Debwenin: Truth in Labeling:
  - All foods must be labeled in a truthful manner, not misleading
  - Information on label must be in a readable format
    - Letters and numbers must be a minimum of 1/16th of an inch.

Wild rice (Manomin), maple syrup, fish, meat, mushrooms and any foods produced in home kitchens have special labeling requirements.

*Meat has additional inspection labeling requirements

- Terminology:
  - **Principal Display Panel (PDP)**- the part of the food label most likely to be displayed to the customer when the product is offered for sale.
  - **Information Fact Panel (IFP)**- a label with required information that appears on a location on the product other than the front of the product

Labeling Standard PDP

Class 2 & 3 Label Example

Statement of Identity:
Must be prominent

Artwork should not hide or detract from label information

Net Quantity Statement: the amount of food in the package

Statement of Identity - common name of the food

Net Quantity Statement - a measurement of the food contained within the package

Labeling Standards- IFP

The following information must be included in IFP if not on PDP:

- Nutrition Facts
- Ingredients (if containing 2 or more)
  - All artificial flavoring. Coloring, or chemical preservatives should be listed:
    - Name **and** function
    - Example: Calcium Propionate [Preservative]
- Signature line with name and address of the product's manufacturer, packer or distributor
- Allergen information (if containing one of the 8 major allergens)
    - Could be in ingredients list

Photo is rendered from Leech Lake Band of Ojibwe Wild Rice package

Labeling: Allergens

- The presence of a major allergens in the food should be clearly and prominently articulated on the label
- Allergen name (Fish), along with the name of the food source (i.e. walleye) is included on the label:
  - Example: Walleye (fish)
- Can be:
  - In the ingredient list OR
  - As a "Contains: ...." Statement

Photo Credit: University of Nebraska Lincoln

Labeling Standards- IFP continued

The following information must be included in IFP if not on PDP:

- Production sales date, or code, or lot number identifying the specific product batch
- Special handling instructions to maintain the wholesomeness of the food (e.g. fish, meat)
- If date label is used it must be in accordance with the following:
  - Food safety related: “USE by” or “USE by or FREEZE by”
  - Food quality related: “BEST if Used by” or “BEST if Used or Frozen by”
  - Sell by dates may only be used for five years from the adoption of the code (being phased out at the federal level)

Labeling Standards- Specialized

Food processed outside of a Licensed Food Processing Plant:

- Including foods prepared, processed or packaged outside of a licensed food processing plant
- Must include, in 12-point font

"**Processed and packaged in a home facility**"

Meat:

- Inspected meat requires an inspection legend
- Legends will be developed by tribes during the implementation process

Produce:

- Most produce is exempt from labeling requirements
- Exception: mushrooms are required to be labeled with the common name, scientific name, harvester name and address, date of harvest and consumer advisory "WILD MUSHROOMS: CLEAN WELL AND COOK THOROUGHLY BEFORE CONSUMING"

Labels Available

Contact Owen Schwartz at GLIFWC at **(715) 685-2147**

- Labels for manoomin are available at GLIFWC
  - 25 bags and labels per request
  - Only available to tribal members of GLIFWC member tribes
  - Available at no cost
- For larger producers
  - Electronic copies of the label or nutrition facts are also available
  - Available at no cost

Food Additives

- Added flavors:
  - Must be declared
  - Declared in order of weight; largest first
  - Spices: common name or as “spices”
  - Vegetables which are processed are considered foods and should be declared by common name
    - E.g. garlic powder
  - Any salt (sodium chloride) should be list as “salt”
  - Water added to food is an ingredient and should be listed
- Colors and preservatives:
  - Only food-safe colors, and preservatives may be used
  - Only in amounts which are safe for human consumption
  - Purpose must be declared
  - List in order of weight; largest to smallest

Packaging:

- Must be made of food safe materials
- Must be appropriate to the type of food it contains

Personnel- General

- Each person engaged in processing, packaging, or holding of food for donation or sale should:
  - **Possess the education, training and experience** necessary to manufacture process, pack or hold clean and safe food as appropriate to the person's assigned duties
  - **Receive training** on the principles of personal hygiene and food safety, as appropriate to the food, facility, operation, and assigned tasks
  - **Records of staff training** should be maintained in accordance with recordkeeping standard

Personnel, cont.

- All persons in contact with food, food contact surfaces, and product packaging materials must adhere to hygienic practices while on duty
- All outer clothing worn by persons handling food must be made of material that is disposable or readily cleaned
  - Garments must be clean at the start of each work day and changed as necessary to prevent adulteration and unsanitary conditions
- Any person who has or appears to have an infectious disease, open lesions or any other abnormal source of microbial contamination, must be excluded from any operation which could result in adulteration or unsanitary conditions
- Tribal mushroom harvesters must:
  - complete training on mushroom identification and harvesting and keep a records of completion

Food Transportation and Storage

- Food should be transported and stored in a manner to protect it from contamination and deterioration
- All containers shall be made of food grade materials and are either cleanable or single use
- Containers must be clean and sanitary prior to the additions of food and be suitable to the food being contained
- Vehicles, food trailers, or containers used for should be cleaned and sanitized prior to use with a different type of food or item when there's a risk of foodborne illness due to cross-contamination
  - E.g. fish boxes should be cleaned and sanitized before holding fresh fruit
- Food storage areas should be cleaned regularly

Food Transportation and Storage

- Temperature controlled food transportation should:
  - Have adequate monitoring of temperature during transport and storage.
  - This monitoring should create reports documenting monitoring and kept in accordance with Recordkeeping regulations
  - Temperature of TCS foods should be at or below 45°F or 140°F or above unless otherwise except for limited circumstances provided for in the model code:
    - For example, wildlife carcasses may be transported from the field immediately after the animal has been killed (and may still be warm) as long as the carcass is being continuously cooled
  - Must be loaded in a manner that allows proper refrigerated air circulation

Equipment and Utensils

All equipment and utensils should be:

- Designed to be cleanable
- Designed to be sanitized according to SSOP, HACCP plans, or Harvest Safety Plans, as applicable
- Made of food safe or food grade material (or nontoxic material, in some instances)
- All storage equipment for tool must not create adulteration or unsanitary conditions

Receptacles used for storing inedible material cannot be used for storing any edible product and must bear a conspicuous markings identifying the permitted uses, i.e. “Trash”

Instruments used to measure, regulate, or record critical controls must be:

- Accurate and precise (in most instances, calibrated before use)
- Maintained in working order
- Appropriate quantity for designated uses (i.e. enough recording thermometers to record temperature at each fish smoking unit)

SSOP's

Required for:

- Food Processing Plants
- Retail Food Establishments
- Facilities used by Class 1 Meat Processors
- Facilities used by Class 1 Fish Processor

- The SSOP should specify how the establishment will meet required sanitation conditions and practices
- Records document sanitation monitoring and corrections
- Shall be signed and dated by the person with overall authority for the facility

Variance

A variance is a written, approved deviation from the standard regulations

- Harvesters and anyone operating, owning or in charge of a food producing facility may request a variance *in writing*
- Variance request must specify the following:
  - The specific provisions that require a variance
  - Reasons for the variance
  - Alternative procedures
- Licencing authority must consider the types of food and risks involved in processing these foods → are the alternative procedures adequate to protect health and safety?
- Procedures that are consistent with cultural practices that have proven safe over generations are eligible for variance

Records

- Personnel Records (education/training) -- maintained for 3 years
- Sanitation Records:
  - Must be maintained for at least **6 months** (but may be longer if they pertain to the following products)
- HACCP, Meat, & Fish Records:
  - Refrigerated product records must be maintained for 1 year after their creation
  - Frozen products must be maintained for 2 years after their creation
- Low Risk Food Records -- maintained for 3 years after their creation
- Covered Produce Records -- maintained for 2 years after sale of product

Recordkeeping-

Record Types	Duration
Sanitation Records	6 months
Refrigerated meat, fish, and other HACCP required product records	1 year
Frozen, shelf-stable, or preserved meat, fish, and other HACCP required product	2 years
Equipment records or scientific study based process records	2 years
Training records of all workers (paid, unpaid, permanent, and temporary personnel)	3 years
Licensed facilities: Harvester education or training records and harvester processing records	3 years

Record Locations

- For seasonal facilities, records may be located in a reasonably accessible location at the end of the season.
  - Records must be returned to the facility within 24 hours, if requested.
- Records may be kept electronically if appropriate controls are implemented to ensure the integrity of the data and signatures
- **All records and plans required by Model Food Code Chapter 3.10 [Recordkeeping] must be available, at reasonable times, for official review and copying by the tribal licensing authority**

Food Processing Plant- Summary

Chapter 3.11

- Must be licensed and registered with the tribal authority
  - Licensing requires and inspection and certification
- Annual inspection and for cause inspection if reasonable belief of a serious safety issue
- Requirements Include:
  - Water quality and plumbing
  - Construction and sanitary design
  - Toilet facilities for personnel
  - Controlled access and pest exclusion
  - Waste disposal
  - Storage of toxic materials
  - Sanitary operations

Food Processing Plant- Water

- Requirements:
  - Potable water source (complies with CFR 141)
    - Private water users (own well) will need to regularly test their water for potability
    - Must have record to this effect on file and updated 2 times a year
  - Water amount, pressure, and temperature suitable for to the processing and sanitation needs within the facility

Retail Food Establishments

Retail food establishments are businesses licensed to sell class 3 foods.

- A retail food establishment license is required to sell class 3 foods to non-Indians, except for:
  - Manomin
  - Maple syrup/sugar
- Current FDA Food Code, or equivalent, applies
- License and inspection required (annual and for cause)

Licensing and Enforcement

- The following operations are licensed with the tribal licensing authority:
  - Food processing plant
  - Retail food establishment
  - Class 1 meat or fish processor
  - Class 2/3 produce harvester
  - Low risk food vendor
- Type of enforcement actions:
  - Penalties
  - Suspension or revocation of license
  - Condemnation of food product
- Examples of reasons for enforcement actions:
  - Evidence of serious health or safety threat
  - Reasonable grounds to suspect food is adulterated
  - Non-compliance with regulations
  - Failure to pass inspection

Questions and Feedback?

Next Unit:

Fish

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

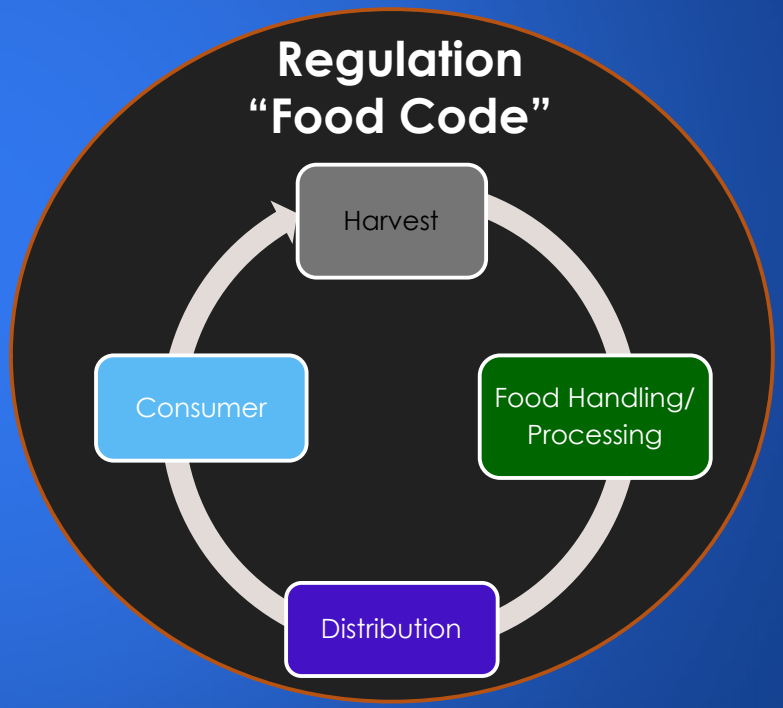
Session 4:
Fish

Unit Objectives

- Understand the Model Food Code regulations for fish
- Able to differentiate the between licensing class
- Understand the food safety and contaminant risks related to whitefish and walleye and fish processing
- Review food safety systems related to fish processing

Reminder: Food Regulatory System

A legal and economic system made of policies, guidelines, and regulations with the purpose of **protecting the health and safety** of food consumers



State/Federal Food Safety Standards

State/Federal Standard	Every-day meaning
Adulteration	Food needs to be clean, wholesome & safe
Misbranding	Food label needs to be accurate
Food Processing Plants	Food needs to be prepared in a facility that is safe, sanitary and secure
Preservatives, artificial colors, food additives	Food processors can only use certain additives to foods and they must be safe

Model Food Codes for Treaty-Harvested Foods

In recognition of the Tribes' civil regulatory authority, the model food code requires varying degrees of regulation per class.

- Class 1= sales from tribal member to tribal member, on reservation (minimal regulation; limited to lower risk products)
- Class 2= sales to tribal institutions and programs (more involved regulation; includes products that involve a higher degree of risk)
- Class 3= retail sales, on and off reservations, to both tribal and non-tribal members (most regulated; for products that must be carefully produced to remain safe)

Labeling standards vary depending on the class of the food.

All Licensing Class Processing

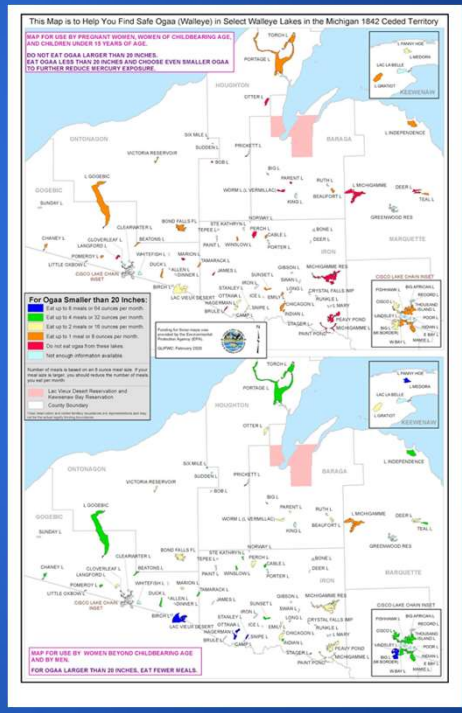
- Appropriate quality control must be used:
  - Examples:
    - Time and Temperature control: refrigeration or freezing (below 40°F)
    - Cross contamination prevention: SSOP
    - Food safe materials: food safe plastics, stainless steel
    - Sanitation control: good hygiene, clean and sanitary surfaces
    - Using potable water for processing fish, ice, cleaning hands and other surfaces
- Packaging materials must be food safe, kept clean and dry prior to using
- SSOPs in place for the processing facility
- HACCP to manage risks associated with the products being produced

Prior to Processing Fresh Fish continued

- To be processed for sale, (evisceration/gutting is not considered processing) fish must be:
  - Fresh and wholesome
  - Proof that the fish was held at or below 38°F (ambient or internal temperature). Proof includes:
    - Transportation records (i.e. recording thermometer records, temperature check records, etc.); OR
    - Fish is completely surrounded by ice at time of delivery; OR
    - Chemical cooling media (i.e. ice blocks) remain frozen and the product's internal temperature at delivery is 38°F or below; OR
    - Delivered refrigerated with transit time of 4 hours or less, transportation records, and the product's internal temperature at deliver is 38°F or below;

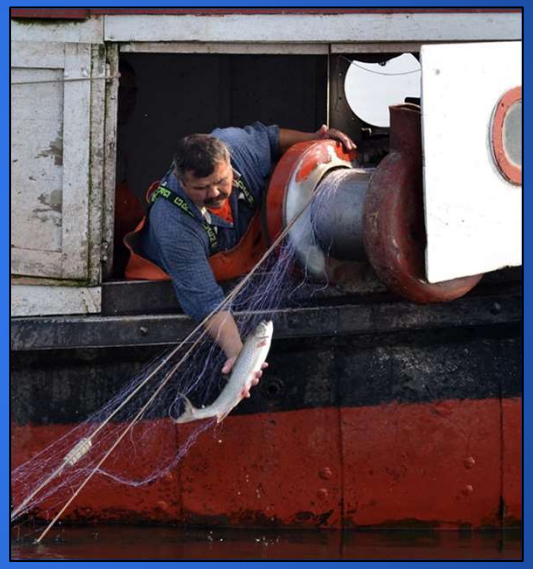
Prior to Processing Fresh Fish continued

- Proof of legal harvest
  - All fish received by a food facility or Class 1 processor must be accompanied by proof of legal harvest
  - Records of the proof of harvest must be maintained in accordance with Chapter 3
- All fish, sold or donated, must be accompanied by a Harvester Certificate of Guarantee. To include:
  - Waterbody(ies) of harvest
- The following inland fish cannot be sold or donated: Inland fish harvested from lakes which are labeled on GLIFWC Mercury maps as “Do Not Eat” for pregnant women, children and women childbearing age



Class 1 Regulation

- Sales to tribal members only, on reservation
  - Fresh filets only
  - Must be stored in a refrigerated container at or below 38° F or in contact with ice
  - Containers holding fish must be sanitary
  - Allergen label required



Can be processed outside of a tribally licensed food processing plant in a facility such as a home kitchen

Class 2 Regulations

- Sales to tribal programs
  - Fresh and vacuum packed frozen fish
  - Same food safety requirements of Class 1 sales
  - Frozen fish must be kept frozen
  - Standard labeling requirements

Must be processed in a tribally-licensed food processing plant

Fisherman finds street corner success

The shutdown order arrived one morning as Joe Newago Jr. and his commercial fishing crew were preparing to motor out onto Lake Superior to pull their gillnets after an overnight set. Non-essential businesses were directed to close by the Wisconsin Department of Health Services March 20 in a bid to slow the progress of a new coronavirus known to spread by human-to-human contact.

"I figured that as a food supplier, we'd be one of the last ones to shutdown, if it even got to that point," said Newago, an Ojibwe fisherman that operates out of Bayfield, Wis. "Next thing you know, the markets dried right up."

With restaurant closures across the nation, his regular catches of whitefish and lake trout no longer had a place to land. Even in Midwest communities where Friday night fish fries are legendary, wholesale buyers on both the local and regional level could not move his product. In a bind, Newago made a few calls and found an alternative to wholesale sales by going consumer-direct, right at the corner of Lakeshore Drive and Vaughn Avenue in Ashland—just a stone-toss away from Chequamegon Bay.

"It's going better than expected. People really want to buy their food locally," Newago said May 1 from the high-visibility parking lot corner. With a cashbox and a pair of large ice chests, he's on his way to develop an alternative outlet for his fish that just might become permanent. "We're looking for a building in town to start up a fish market."

Since just after Easter, Newago has sold freshly pin-boned, skinless fillets every Thursday and Friday. In addition to the vacuum-packed fillets, he also offers smoked fish, which is processed on Wednesdays. Everything sells out.

"Everyone that's come has been happy. It's a lot of repeat customers," he said. "You can't beat the price. It's good for the consumer and it's working for us."

While the fallout from the coronavirus pandemic continues to create challenges for many Gichigami commercial fishermen, there are some silver linings—some revelations that give way to opportunity. With a healthy product and strong community support, Newago looks forward to the day when a temporary street corner location might evolve into a brick-and-mortar family business. For more information on fresh fish, including large orders, contact Newago at 715.209.1077. —COR

On a business trip to Ashland, Altoona resident Tom Peacock (above left) picked up a handful of smoked lake trout packages from Joe Newago Jr. Newago sells fresh and smoked fish on the corner of Lakeshore Drive and Vaughn Avenue in Ashland on Thursdays and Fridays.

Upon returning from fishing runs on Lake Superior, Newago and his crew vacuum-pack skinless, pinboned whitefish and lake trout fillets for direct-to-consumer sales. (COR photos)

Class 3 Regulations

- Retail sales
  - Fresh, frozen vacuum packed, smoked and roe
  - Same food safety standards as Class 1 & 2, plus additional safety requirements for specialty products
  - Standard labeling requirements

Must be processed in a tribally-licensed food processing plant

Cathy Newago mans the family fish shop, Newago Fish Market, spring through fall, selling fresh and smoke Lake Superior fish as well as a variety of fish spreads.

Labeling: Allergen

- Fish is one of the FDA's 8 major allergens

Labeling requirement:

- Allergen name (Fish), along with the name of the food source (i.e. walleye) is included on the label:
  - In the ingredient list OR
  - "Contains: ...." Statement

Photo Credit: University of Nebraska Lincoln

Fish and Food Safety

Food Safety Snapshot -- Food Safety Risks

Types of risks involved with fish processing:

- Biological
  - Pathogens: Bacteria, Parasites, Viruses
  - Botulism from reduced oxygen packaging (e.g. vacuum pack)
- Physical
  - Metal fragments
- Chemical
  - Allergens (industry and labeling)
  - Methylmercury (walleye)

Keweenaw Bay Tribal Judge by day, fish processor by night Brad Dakota fillets a lean lake trout. Brother and Tribal Police Chief Dale Dakota shares responsibility at their fish shop near L'Anse, Michigan.

Fish is a TCS Food (Time and Temperature Control for Safety)

Food Safety - Pathogens

Pathogens are present on the fish at time of harvest.

- **Common bacteria:**
  - *Escherichia coli*
  - *Listeria monocytogenes*
  - *Clostridium botulinum*
- **Common freshwater parasites:**
  - *Diphyllobothrium latum* (tapeworms)
- **Viruses are typically associated with mollusk or humans**
  - Hepatitis A and Norovirus

Food Safety - Botulism

- A concern when fish or products are stored in environments without air, specifically mechanically removed or altered packaging environments (e.g. vacuum sealing)

Clostridium botulinum

- Creates spores which can survive both cooking and freezing
- Spores can release a powerful neurotoxin
- A LITTLE CAN BE LETHAL TO ALL AGES
- Frozen fish must be kept frozen until use
- Open package while thawing is recommended

Food Safety - Physical Risks

Physical Concerns

- Metal inclusion
  - Typically concerns are knife tips
  - Metal to metal contact (industry)

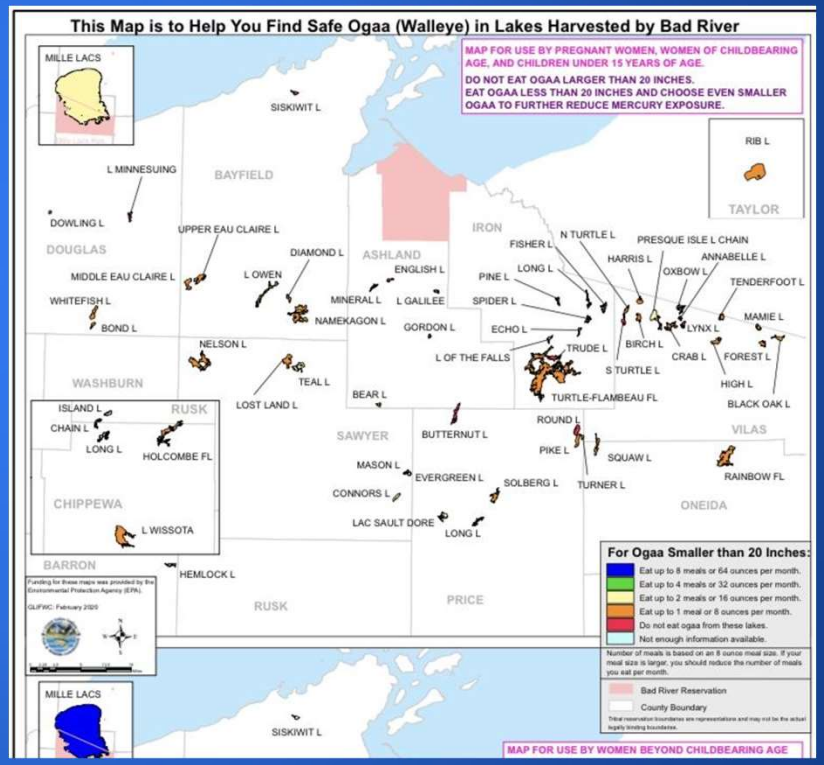
Food Safety -- Chemical Risk (Allergen)

- Allergens are a chemical component which causes an immune response in the body
- Fish is one of the 8 major allergens
- Allergens can contaminate non-allergen containing food through **cross contact**
- Allergen cross-contact may result in the unintentional introduction of allergens into foods that do not properly declare the allergens on the labels[1]

[1]Food and Drug Administration. "Fish and Fisheries Products Hazards and Control Guidance". April 2019. Pg A9-1

Food Safety -- Chemical Risk (Mercury)

- Methylmercury is a neurotoxin, especially dangerous for children and babies
- GLIFWC has been sampling and analyzing the methylmercury levels in off-reservation inland walleye and other fish for decades and has produced maps of lakes describing the relative levels of mercury in various types of fish based on the studies



Adikameg Consumption Recommendations

- Studies performed on Great Lakes adikameg (whitefish) have shown it to be low in chemical contaminants
- State based fish consumption recommendations for sensitive populations (children and women of childbearing age):
  - 2 times a month, any size, untrimmed and skin on
  - 4 times a month, any size, fat and skin removed

Hazard Controls

Required Food Safety Documents

Harvester:

- Certificate of Guarantee ID'ing waterbody
- Temperature log (if applicable)

Food Processor:

- SSOPs
- HACCP plan & records
- License to operate facility

Group Exercise

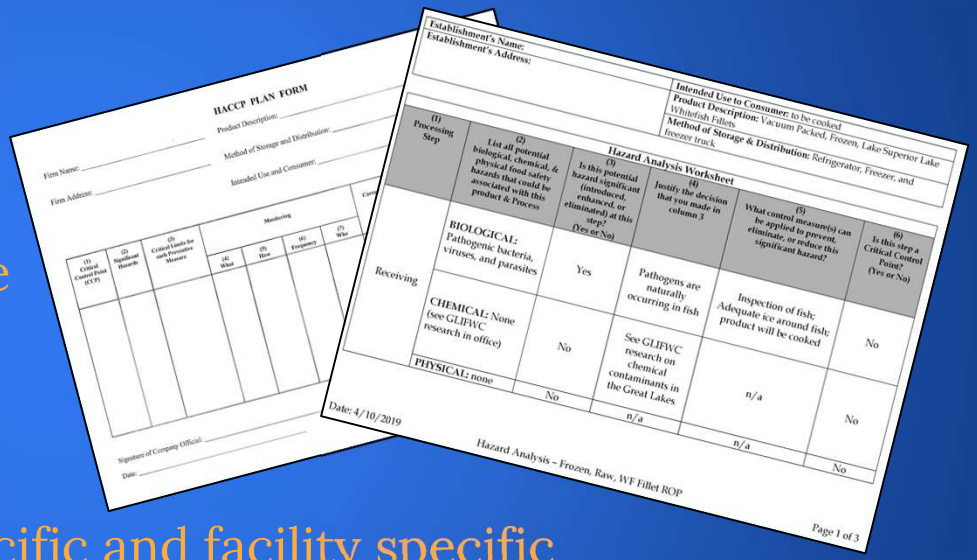
What can and should harvesters do on board, and before fish enter a processing facility to preserve the integrity of the fish they've harvested?

Hint: Look in the definitions and in Sec. 6.01

HACCP Notes

HACCP is required for:

- Food Processing Plants
- Class 1 Fish Vendor License



HACCP PLAN FORM

Establishment's Name:
Establishment's Address:

Intended Use to Consumer: to be cooked
Product Description: Vacuum Packed, Frozen, Lake Superior Lake Whitefish Fillets
Method of Storage & Distribution: Refrigerator, Freezer, and freezer truck

Hazard Analysis Worksheet

(1) Processing Step	(2) List all potential biological, chemical, & physical food safety hazards that could be associated with this product & Process	(3) Is this potential hazard significant (introduced, enhanced, or eliminated) at this step? (Yes or No)	(4) Justify the decision that you made in column 3	(5) What control measure(s) can be applied to prevent, eliminate, or reduce this significant hazard?	(6) Is this step a Critical Control Point? (Yes or No)
Receiving	BIOLOGICAL: Pathogenic bacteria, viruses, and parasites	Yes	Pathogens are naturally occurring in fish	Inspection of fish; Adequate ice around fish; product will be cooked	No
	CHEMICAL: None (see GLIFWC research in office)	No	See GLIFWC research on chemical contaminants in the Great Lakes	n/a	No
	PHYSICAL: none	No	n/a	n/a	No

Date: 4/10/2019

Hazard Analysis – Frozen, Raw, WF Fillet ROP

Page 1 of 3

- HACCP plans are product specific and facility specific
- Must be reevaluated and signed annually

Hazards: All Fish Products

Fish and Fish Products

- ***Pathogens***
  - Control: Time and Temperature
    - Cool rapidly and keep cool (below 38°F)
    - Cooked products should be cooked thoroughly (e.g. 145°F)
    - Prevent cross contamination
    - Water, including ice, used for processing or cooling must potable water

Photo credit: EUFIC

Hazards: All Fish Products continued

Fish and Fish Products

- ***Allergens***
  - Control: Labeling or Spacing & Scheduling
    - Adequately label foods containing allergens or coming into contact with allergen containing ingredients
    - Store allergen containing ingredients and non-allergen containing in a physically separated manner (i.e. in separate boxes, etc.)

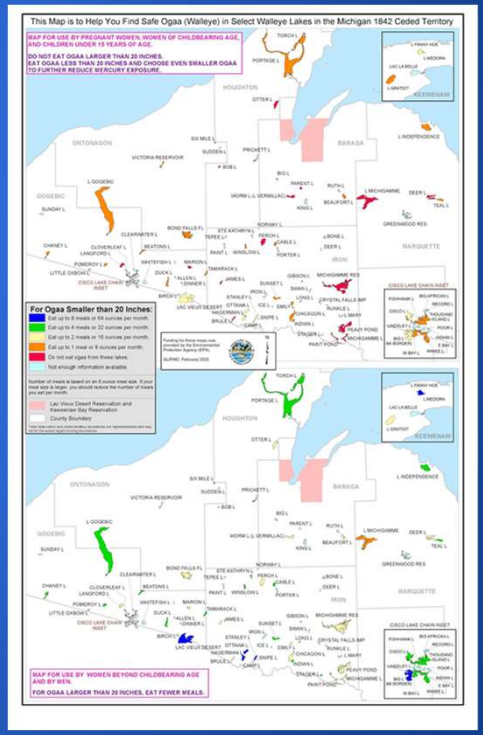
Photo credit: Central Restaurant Products

    - Store allergen containing ingredients below non-allergen containing ingredients
    - Process non-allergen ingredients prior to allergen containing ingredients
    - Color code specific tools and ingredient containers for allergen free foods

Hazards: Fresh and Frozen Fish

Fresh or Frozen with Oxygen

- ***Pathogens***
  - Control: Time and Temperature
    - Store fish under refrigeration, appropriate ice, or freezing
    - Time out of refrigeration should be kept short to reduce pathogen growth
    - All ice must be made from potable water
- ***Methylmercury (walleye)***
  - Control: Size of Fish and Harvest Location
    - Fish less than 20 inches, harvested from lakes approved for vulnerable populations



Hazards: Reduced Oxygen Packaging

Reduced Oxygen Packaging (ROP)

Typically raw, frozen fillets

- ***Clostridium botulinum***
  - Control: Time and Temperature
    - Maintaining freezer storage
  - Control: Proper Thawing Instructions (Label)
    - Label on package should state “Keep frozen until ready to use. To thaw, cut bag open **and** thaw under refrigeration or cool running water”

Hazards: Smoked Fish Processing

Risk: *Clostridium botulinum*

- Control: Water Activity
  - Brine with a solution to reach a water phase salt of 3.5% or 3.0% (depending on the packaging used) within the flesh of the fish
- Control: Preservative Content
  - Finished smoked fish sausage must have a minimum of 100 ppm nitrite
- Control: Time and Temperature
  - Smoked fish should be cooked to 145°F (internal temperature of the fish) and maintain this temperature or above for a minimum of 30 minutes.
  - Other method proven by a scientific study for the process and equipment used

Photo by The Black Peppercorn

Hazards: Smoked Fish Processing, continued

Smoked Fish

Risk: Pathogen formation/growth after Hot Smoking

- Control: Time and Temperature
  - Smoked fish should be cooled quickly
  - Smoked fish should be kept at or below refrigerated temperatures (40°F)
- Control: Packaging
  - Vacuum packed smoked fish may not have less than 3.5% water phase salt (wps)
  - Otherwise, smoked fish must be wrapped in air permeable membranes, with a minimum wps of 3%

Photo by HAGC

Photo by Politico

Hazards: Fish Eggs

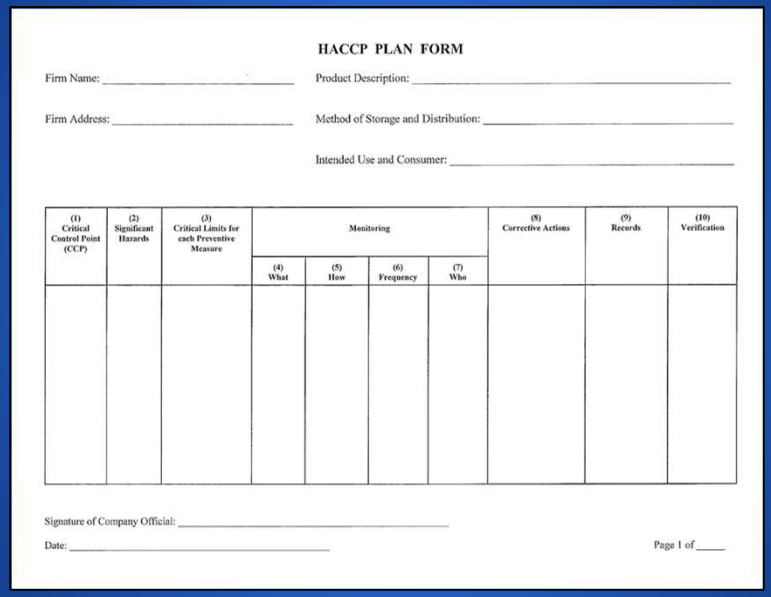
Fish Eggs

- ***Clostridium botulinum***
  - Control: Salinity
    - Salt should be added to the fish eggs (roe) to achieve a ratio of 1 pound salt to 33 pounds roe (skeins removed)
    - The salt should be carefully added and combined to achieve uniformity
  - Control: Time and Temperature
    - Fish eggs should be kept at or below refrigerated temperatures (38°F)

Photo credit: Solex Catsmo.com

Photo credit: Great Lakes Gazette

Blank HACCP Plan Form Examples



HACCP PLAN FORM

Firm Name: _____ Product Description: _____

Firm Address: _____ Method of Storage and Distribution: _____

Intended Use and Consumer: _____

(1) Critical Control Point (CCP)	(2) Significant Hazards	(3) Critical Limits for each Preventive Measure	Monitoring				(8) Corrective Actions	(9) Records	(10) Verification
			(4) What	(5) How	(6) Frequency	(7) Who			

Signature of Company Official: _____

Date: _____ Page 1 of ____

HACCP PLAN FORM

Firm Name	Product Description:
Firm Location	Method of Storage & Distribution:
	Intended Use & Consumer:

Critical Control Point (CCP)		
Significant Hazard(s)		
Critical Limits for each Control Measure		
Monitoring	What	
	How	
	Frequency	
	Who	
Corrective Action		
Verification		
Records		

Signature:	Date:

What Documents are Required?

Harvester Certificate of Guarantee

Sample →

Used to verify that the fish is not subject to a fish consumption advisory for mercury levels (fish that are subject to “do not eat” advisories for pregnant women, women of childbearing age and children may not be sold, donated or received by a food processing plant.

HARVESTER CERTIFICATE OF GUARANTEE (VENISON)

Commercial Tag No._____
Tribal Disease Management Area Tag No. _____
Only applicable to deer harvested in Tribal Disease Management Areas
Name of the Tribal Member Harvester: _____
NAGFA Id. No.: _____

Pre-mortem Inspection Information Record
Required for Class 2 and 3 Sales Only
Condition and behavior of animal at rest, and in motion:
Overall condition of the animal, especially the head, eyes, leg and body: (normal, or describe) _____

Alertness, mobility and breathing (normal, or describe): _____

Presence of any unusual swelling, signs of injury or other abnormalities? (N/A, or describe) _____

Displaying any abnormal behavior? _____ If so, describe: _____

Normal gait, normal grazing activity, alert to danger: yes/no (circle one)

Alive, when harvested: yes/no (circle one)

□ Unable to walk due to broken appendages, severed tendons or ligaments, nerve paralysis or fractured spine (circle as applicable).

Time of Kill Information
Required for All Classes of Sale
Date: _____
Time: _____
DMU: _____
Air temp: _____
Manner of killing:
Bow/arrow __
Crossbow __
Rifle __
Type of shot used (if applicable): _____
Nontoxic shot is required.
□ Was harvested within a Tribal Disease Management Area for Chronic Wasting Disease (CWD) or Bovine Tuberculosis (TB).

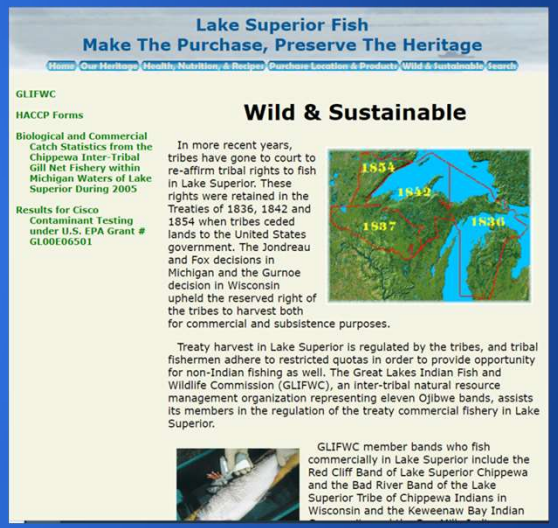
Humane Handling Certification
Required for All Classes of Sale
□ The animal was killed in a swift and efficient manner consistent with the methods approved by my Tribe's conservation codes.
□ The animal was not shackled, hoisted, thrown or cast until the animal was stunned or killed in a manner that caused permanent unconsciousness or death.

Field Dressing Certification:
Required for All Classes of Sale
□ All personnel engaged in field dressing the animal wore clean, washable outer clothing and food handling gloves, with any long hair covered or tied back; and all personnel washed and rinsed their hands sufficiently during the operations to prevent contamination of the carcass.
□ Equipment and utensils used for field dressing were made of sanitary design and construction, and were kept clean and sanitary (free from contamination by soil, vermin, insects, vermin and waste products) prior to, and during, field dressing.
□ Prior to making any incisions into the carcass, loose dirt and debris was cleaned from the carcass, and the carcass was placed on a non-permeable, clean and sanitized surface (i.e. clean and sanitized tarp, game processing table, etc.).

Resources

Great Lakes Indian Fish and Wildlife Commission

- Great Lakes Fish (Whitefish)
  - http://glifwc.org/lakesuperiorwhitefish/Sustainable.html
  - Whitefish contaminant studies, HACCP forms, whitefish marketing materials
  - Seafood HACCP Training



- Mercury Maps
  - http://glifwc.org/Mercury/
  - Guidance for safe consumption of walleye from inland lakes in ceded territory

Resources

State-based Sea Grant programs:

- Michigan:
  - https://www.michiganseagrant.org/
- Wisconsin:
  - https://www.seagrant.wisc.edu/
- Minnesota:
  - http://www.seagrant.umn.edu/
- Florida:
  - https://www.flseagrant.org/seafood/haccp/
    - Seafood HACCP tools and education

HACCP Resources

US Food and Drug Administration

- *Fish and Fisheries Products Hazards and Control Guidance* (March 2020)
  - https://www.fda.gov/food/seafood-guidance-documents-regulatory-information/fish-and-fishery-products-hazards-and-controls
  - Excellent resource on fish and fish product hazards and controls. Fish HACCP plans are difficult to write without this book. Free download and supplemental material

Association of Food and Drug Officials

- www.afdo.org
- HACCP training information and industry updates

Questions and Feedback

Summary:

- Fish harvesting regulations may be different from tribe to tribe and year to year. Check with your local tribal Natural Resources for information on harvesting regulations.
- Fish are an allergen and must be have an allergen label on all fish containing products.
- Walleye harvested from low mercury containing lakes are safer. Consuming walleye under 20" in length is safest for children, pregnant women, and women of child bearing age.

Miigwetch gaa-bizindaawiyeg!

Thank you for listening!

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Questions and Feedback?

Next Unit:

Meat

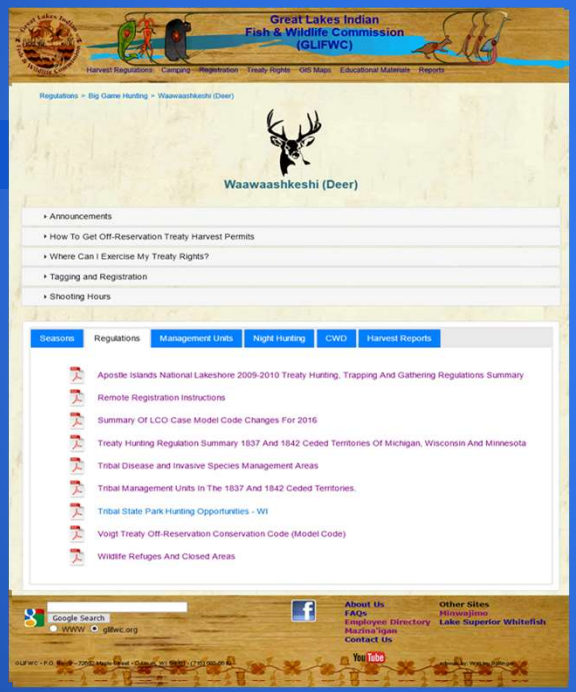
Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 5:
Meat

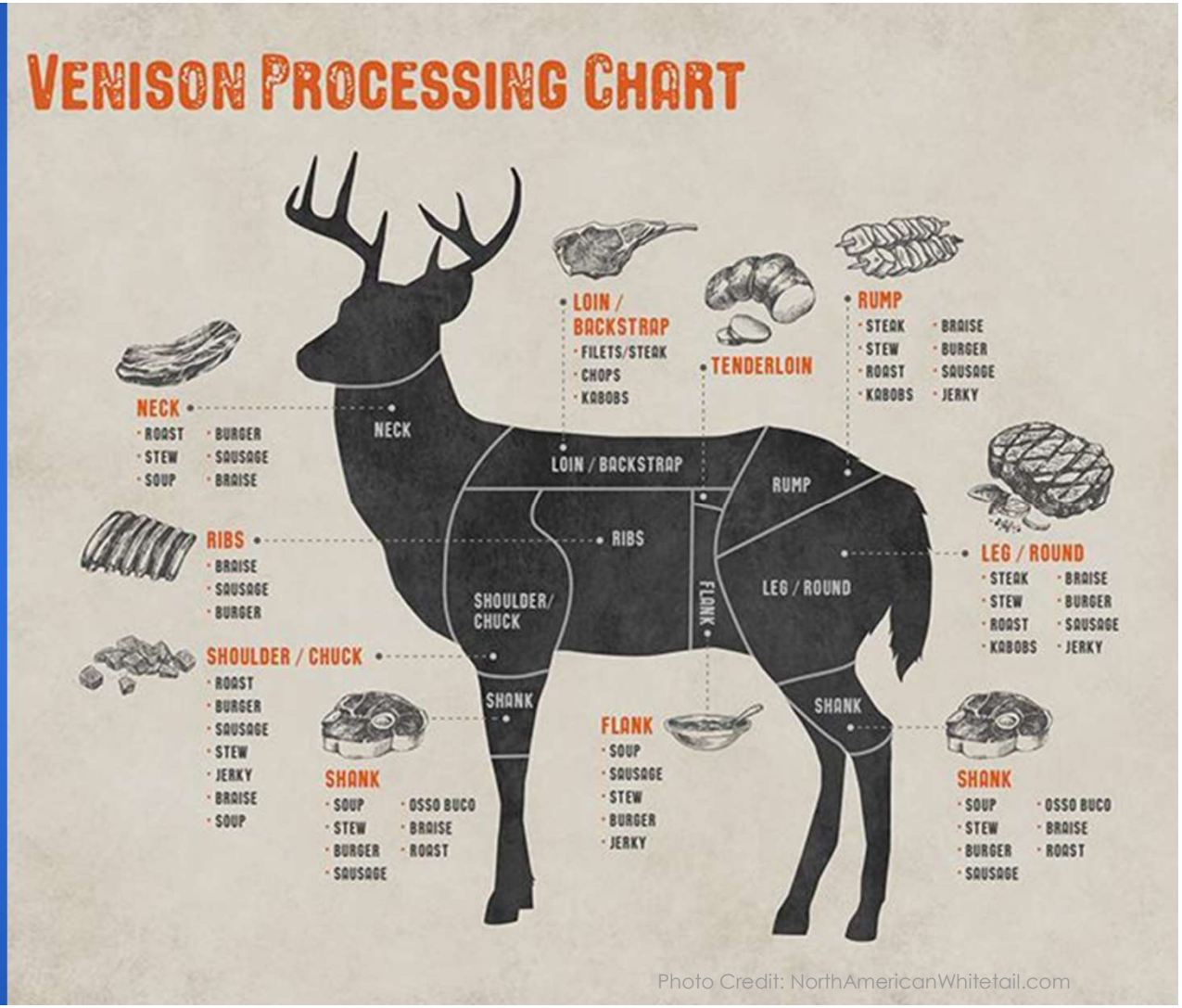
Before the Hunt (Off-Reservation)

- Read through relevant hunting regulations at https://data.glifwc.org/regulations/
- GLIFWC Wardens are available to answer your questions



- Hunter must:
  - Complete Hunter's Education & Firearm Safety
    - Unless, born before January 1, 1977
    - Or have completed an Armed Forces basic training
    - Or hunt with a qualified mentor
    - http://data.glifwc.org/archive.bio/hunter.safety.mentor.hunter.summary.2020-04-03.pdf
- Contact tribal registration station for updates and to obtain required permits

Waawaashkeshi-wiiyas & Model Food Code



Food Processing & LCO v. Wisconsin

1. In the 1980s, the parties the *Lac Courte Oreilles v. Wisconsin* (Voigt) case made agreements or stipulations on many issues.
   - Commercial sale of venison agreement
     - The Tribes agreed to hold off on selling any processed venison products (i.e. any cuts of venison, ground venison, venison jerky, etc.) until they created a food regulatory system similar to state and federal models
     - The Tribes also agreed to give the state notice and provide a copy of their regulations to the federal court
   - Currently, the only opportunity for tribal members to sell venison is by selling a whole carcass.

1 off-reservation harvesting issues? Or just issues in general?
LaTisha Coffin, 8/19/2020

State/ Federal Food Safety Standards

State/Federal Standard	Every-day meaning
Adulteration	Food needs to be clean, wholesome & safe
Misbranding	Food label needs to be accurate
Food Processing Plants	Food needs to be prepared in a facility that is safe, sanitary and secure
Meat Inspection	Food from animals needs to be checked for potential disease before and after they are killed to make sure the meat is safe for human consumption
Preservatives, artificial colors, food additives	Food processors can only use certain additives to foods and they must be safe

GLIFWC Model Food Code

In recognition of the Tribes' civil regulatory authority, the model food code requires varying degrees of regulation per class.

- Class 1= sales from tribal member to tribal member, on reservation (minimal)
- Class 2= sales to tribal institutions and programs (more)
- Class 3= retail sales, on and off reservations, to both tribal and non-tribal members (highest)

*All commercial harvesters must comply with Off-Reservation Conservation Code requirements regarding Records of Commercial Transactions

Class 1 Regulation

Sales to tribal members only, on reservation

- Products: fresh and frozen cuts of meat, not including ground meat
- Includes assurances in writing that
  - The deer was healthy when harvested
  - Was field dressed using clean clothes and cleanable equipment, etc.
- Allergen label required (if applicable)

Can be processed in a non-licensed facility such as a home kitchen or other residential location.

Photo Credit: The News-Gazette

Class 2 Regulations

Sales to tribal programs such as
Head Start & Elderly Nutrition Programs

- Includes assurances in writing that
  - The deer was healthy when harvested
  - Was field dressed using clean clothes and cleanable equipment etc.
- All butchering/packaging is done in a tribally-licensed food processing facility
- Standard labeling requirements apply
- Products include: fresh/frozen cuts of meat and ground meat

Class 3 Regulations

Retail sales both on and off reservation, to anyone

- Products: fresh/frozen cuts of meat, ground meat **and jerky**
- Same processing and labeling standards as Class 2

Photo Credit: The National Provisioner

Photo Credit: PheasantForDinner.com

Venison and Food Safety

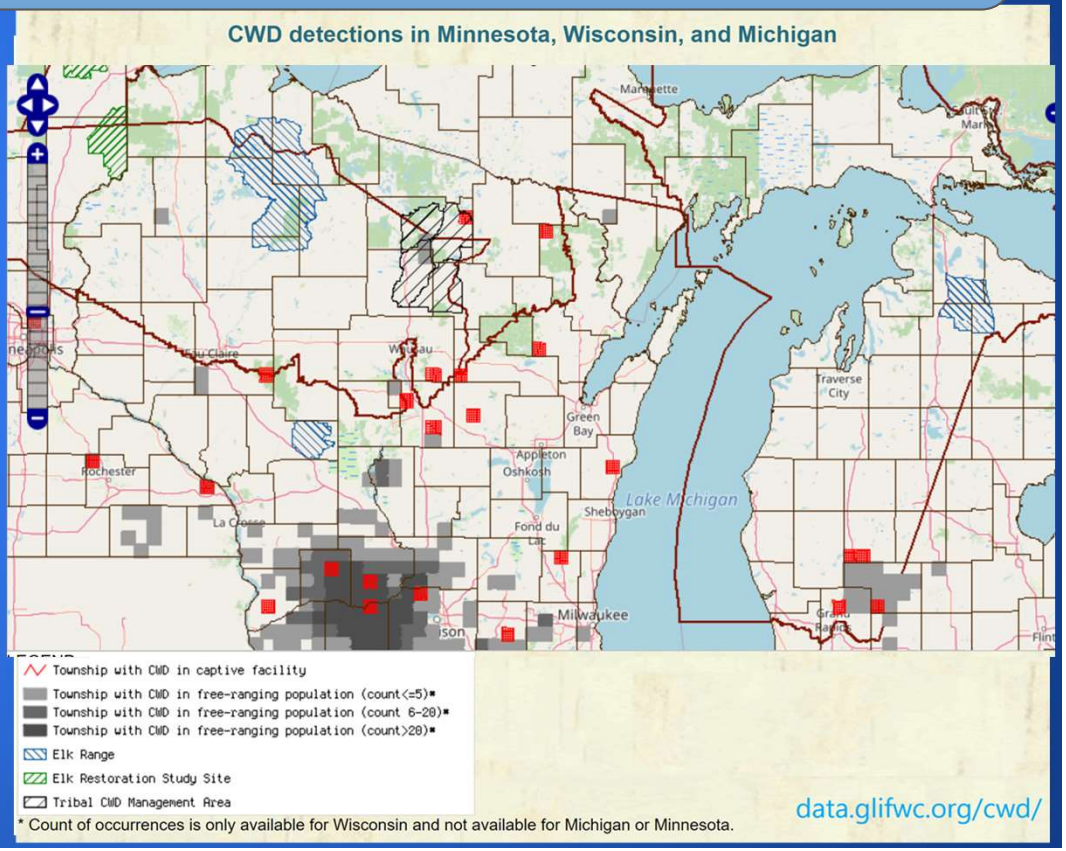
Venison Food Safety Snapshot

- Biological concerns:
  - Chronic Wasting Disease (CWD)
  - Bovine Tuberculosis (bTB)
  - *Toxoplasma gondii*
  - E. Coli
- Chemical
  - Lead
- Physical
  - Bullet fragments

Deer Related Diseases- CWD

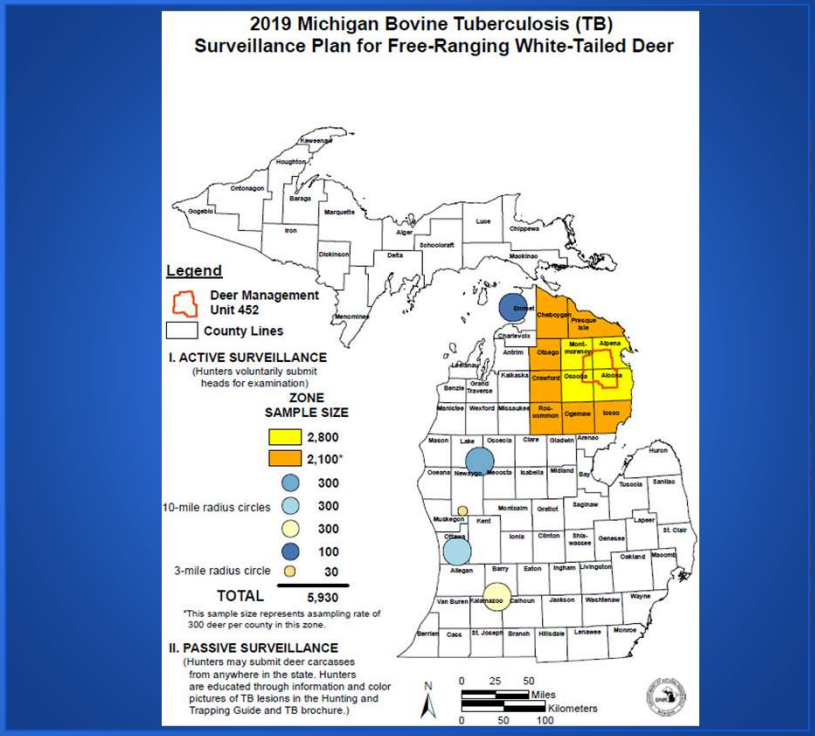
- Chronic Wasting Disease (CWD)
  - A protein based disease which infects deer, moose and elk
  - Unknown risk to humans
  - There is no cure
  - The disease is always fatal to deer
  - May be transmitted through many different vectors (i.e. urine, feces, carcasses and potentially other animals, vegetation and tools)

CWD has been found in MI, WI, and MN



Deer Related Diseases - bTB

- Bovine Tuberculosis
  - According to the CDC, bTB represents about 2% of tuberculosis cases annually or about 130 people[1]
  - Can be passed from cattle to deer
  - Can transmit to humans through bodily fluid contact & inhaling bacteria exhaled from infected lungs[1]
  - Monitored by state natural resource departments and GLIFWC



[1] Centers for Disease Control "Table 18 Reported Tuberculosis 2018" September 2019. (see handout)

Photo Credit: MI DNR

Toxoplasma gondii

- Common parasite infecting warm-blooded animals.
  - Causes Toxoplasmosis which typically presents flu-like symptoms and enlarged lymph nodes. Though rare, it can cause damage to the eyes
  - Vulnerable populations include pregnant women and immunocompromised individuals
    - Can pass from mother to fetus, leading to eye and brain issues in some, later in life
    - In immunocompromised individuals, it may cause a severe infection, and possibly seizures
  - The CDC estimates that 40 million americans carry the parasite, often without symptoms.

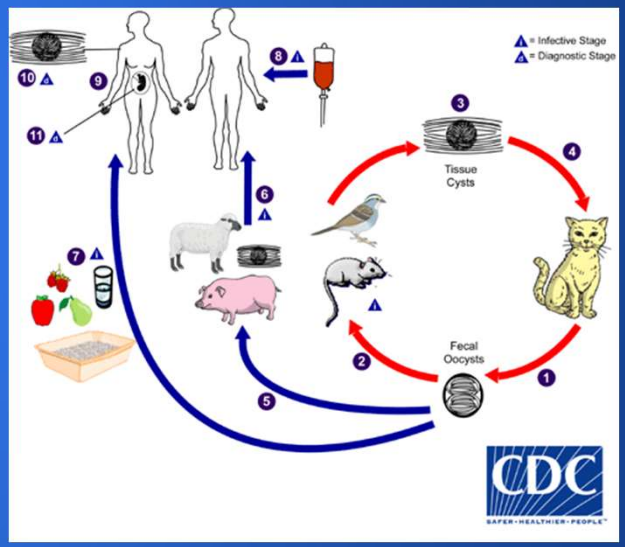


Photo credit: Centers for Disease Control

Toxoplasma gondii continued

- Humans can become sick when they consume the cyst from undercooked game meat or pork, unpaztuazed goat milk, unwashed fruits of vegetables, contaminated soil, or water.
  - According to the CDC, about 50% of infections come from food
- The prevalence of *T. gondii* in wildlife is believed to be widespread.
  - A report release in June 2020 found that 36% of samples from white tailed deer across the U.S. tested positive for *T. gondii*[1]

[1] Dubey, J., Cerqueira-Cézar, C., Murata, F., Verma, S., Kwok, O., Pedersen, K., . . . Su, C. (2020). White-tailed deer (Odocoileus virginianus) are a reservoir of a diversity of Toxoplasma gondii strains in the USA and pose a risk to consumers of undercooked venison. Parasitology, 147(7), 775-781. doi:10.1017/S0031182020000451

Escherichia Coli

- Bacteria found in the intestinal tracts of animals (e.g. humans, deer, cattle)
- Also found in fecal matter, which can be found on animal fur
- Can cause nausea, vomiting, bloody diarrhea, fever, stomach cramps
- Young children and elders = higher risk of more serious complications

Photo Credit:
Washington University

Lead in Venison

Table 1. Summary of lead content analysis in Wisconsin hunter-killed deer.

Sample group	*Number of samples**	*Mean lead conc., lead-positive samples mg/kg ±std. dev.*	*Mean lead conc., all samples mg/kg ±std. dev.*	*Prevalence of lead-positive samples*
Commercial processor	*199*	*15.9 ± 32.5*	*2.4 mg/kg ± 13.8*	*15%*
Hunter processed	*98*	*21.8 ± 67.1*	*1.8 mg/kg ± 19.8*	*8%*

*Each sample represents a nominal 1 pound package.

- Results
  - Consuming venison with as little as 1.8 mg/kg once a month can increase blood lead levels.
  - Consuming more lead can increase the amount of lead in the blood
  - According to the CDC, "No safe blood level in children has been identified"[2]

[1]U.S. Department of Health and Human Services, Agency of Toxic Substances and Disease Registry. *Health Consultation: The Potential for Ingestion Exposure to Lead Fragments in Venison in Wisconsin.* November 4th, 2008. (handout)
[2] Centers for Disease Control. *Blood Lead Levels in Children.* July 30, 2019. https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm

Chemical Contamination Risk Lead in Venison

How does it get into venison

- Bullets often fragment into small pieces which are invisible to the human eye
- Lead fragments can contaminate equipment such as meat grinders, which can effectively mix any lead present in one area or carcass, throughout a processing lot

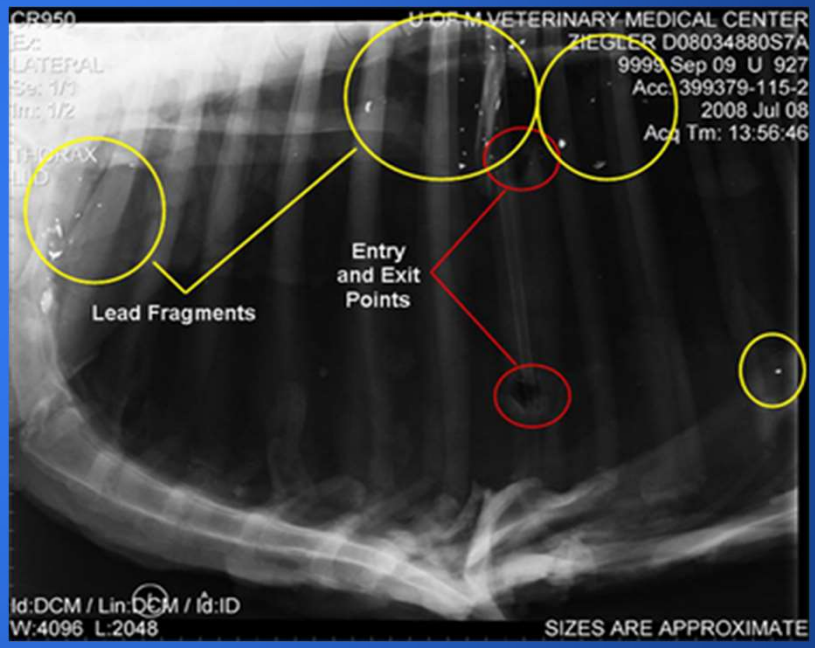


Photo Credit: NY Department of Environmental Conservation

Chemical Contamination Risk Lead in Venison

Lead ammunition contaminates meat with lead, a known neurotoxin

- Lead ammunition fragments into particles that are too small to locate without expensive equipment, and can travel away from the exit and entry wound
- Nontoxic ammunition is made with a metal other than lead, such as copper that doesn't fragment in the same manner as lead ammunition
- Because lead is a chemical contaminant that is considered dangerous to human health, lead shot shouldn't be used for meat intended for donation or sale

Bullet fragments are physical hazards; any visible bullet fragments must be removed during processing.

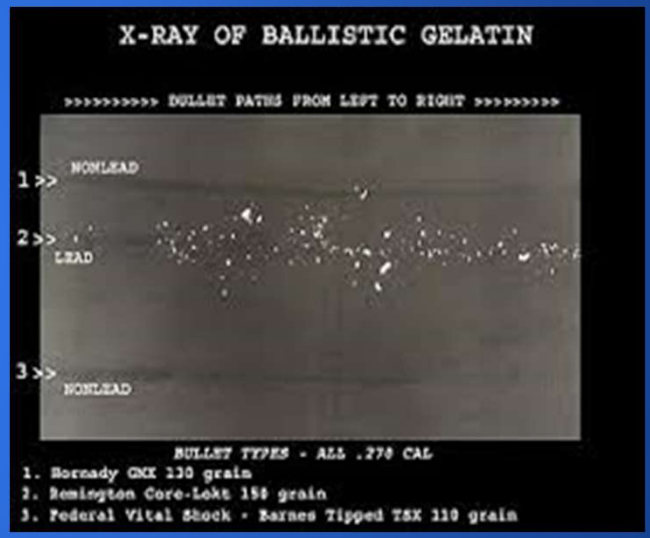


Photo Credit: University of Minnesota Food Policy

Hazard Controls

During the Hunt

Group Exercise

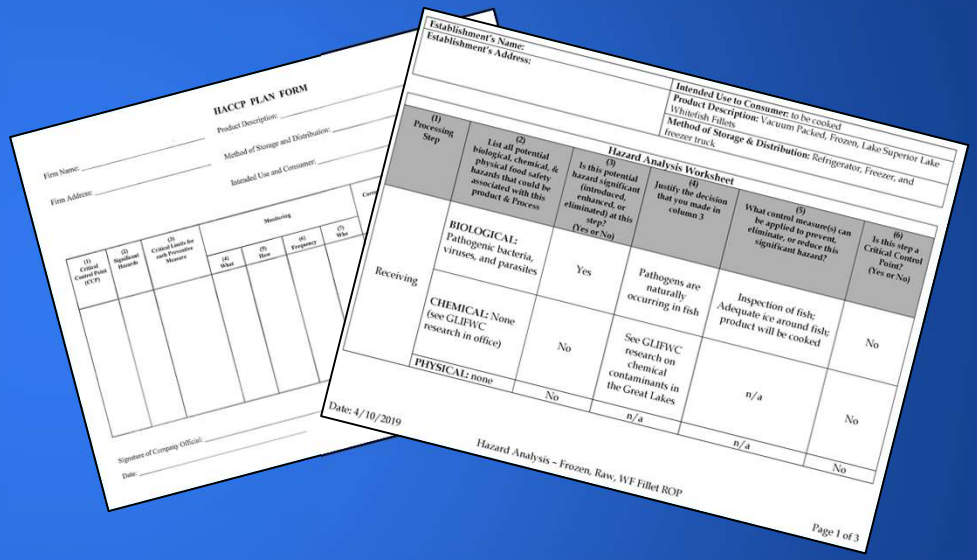
- What do hunters need to do during the hunt (before killing an animal)?
- What do hunters need to do during field dressing?
- What do hunters need to do during transportation?

Hint: answers will be found in Sec. 5.01-5.06

HACCP Notes

Hazard Analysis is required for:

- Food Processing Plants
- Class 1 license
- Class 2 license
- Class 3 license



HACCP PLAN FORM

Firm Name:

Firm Address:

Product Description:

Method of Storage and Distribution:

Intended Use and Consumer:

Establishment's Name:

Establishment's Address:

Intended Use to Consumer: to be cooked

Product Description: Vacuum Packed, Frozen, Lake Superior Lake Whitefish Fillets

Method of Storage & Distribution: Refrigerator, Freezer, and freezer truck

Hazard Analysis Worksheet

(1) Processing Step	(2) List all potential biological, chemical, & physical food safety hazards that could be associated with this product & Process	(3) Is this potential hazard significant (introduced, enhanced, or eliminated) at this step? (Yes or No)	(4) Justify the decision that you made in column 3	(5) What control measure(s) can be applied to prevent, eliminate, or reduce this significant hazard?	(6) Is this step a Critical Control Point? (Yes or No)
Receiving	**BIOLOGICAL:** Pathogenic bacteria, viruses, and parasites	Yes	Pathogens are naturally occurring in fish	Inspection of fish; Adequate ice around fish; product will be cooked	No
	CHEMICAL: None (see GLIFWC research in office)	No	See GLIFWC research on chemical contaminants in the Great Lakes	n/a	No
	PHYSICAL: none	No	n/a	n/a	No

Signature of Company Official:

Date: 4/10/2019

Hazard Analysis - Frozen, Raw, WF Fillet ROP

Page 1 of 3

- ► HACCP plans are product specific and facility specific
- ► Must be reevaluated and signed annually

Hazards: Deer Diseases

All Venison Products

Deer exhibiting signs of disease are not allowed for sale or donation under the Model Food Code.

- ***Deer Disease: Chronic Wasting Disease & Bovine Tuberculosis***
  - Control: Inspection
    - Tribal Inspectors/class 1 meat vendors must condemn harvest exhibiting signs of disease or harvested from Tribal Disease Management Areas that have not been cleared through testing
    - All condemned harvest must be disposed of in accordance with the tribe's regulations

For CWD: Stainless steel equipment can be cleaned first with warm soap and water. Then, decontaminated with a 5 minute soak in a solution which is 50% bleach and 50% water. Followed by air drying

Hazard: Chronic Wasting Disease continued

All Venison Products

CWD positive deer are not allowed for sale or donation under the Model Food Code.

- ***Deer Disease: Chronic Wasting Disease***
  - Control: Exclusion

    Currently, the only way to control for CWD is to have the harvest tested and excluding harvest which test positive for CWD.

- Class 1 Meat Vendors and Food Processing Plants are required to:
  - Maintain a copy of the Certificate of Guarantee and CWD test results
  - Maintain records of processing and distribution

Hazard: *E. coli* in the field

All Venison Products

Pathogen: E. coli

- Control: Environment & Time and Temperature
  - Hunt in cool weather
  - Shot placement can reduce *E.coli* leaving the intestines
  - Process harvest in clean environment, with clean and sanitary equipment and clothes
  - Avoid nicking the intestines or allow fecal matter to come into contact with the meat
  - Process and cool carcass quickly

Continuous cooling is required

Photo Credit:L & M Supply

Photo Credit: Texas Parks and Wildlife

Hazards: Fresh and Frozen

Fresh or Frozen

- ***Pathogens***
  - Control: Time and Temperature
    - Store under refrigeration or freezing
    - Time out of refrigeration should be kept short to reduce pathogen growth
    - Grinding equipment and other equipment should be frequently taken apart and sanitized completely
- ***Lead***
  - Control: Harvest Ammunition Selection
    - Lead ammunition is not allowed under the Model Food Code
- ***Bullet Fragments***
  - Control: Harvest Ammunition Selection & Product Inspection
    - Bullet fragments should be inspected for and removed
    - Fragments larger than 7 mm must be removed

Resources

GLIFWC staff are available to assist tribal members in testing their deer for CWD. CWD testing is free for tribal members. Please contact Wildlife Biologist Travis Bartnick for more information: tbartnick@glifwc.org

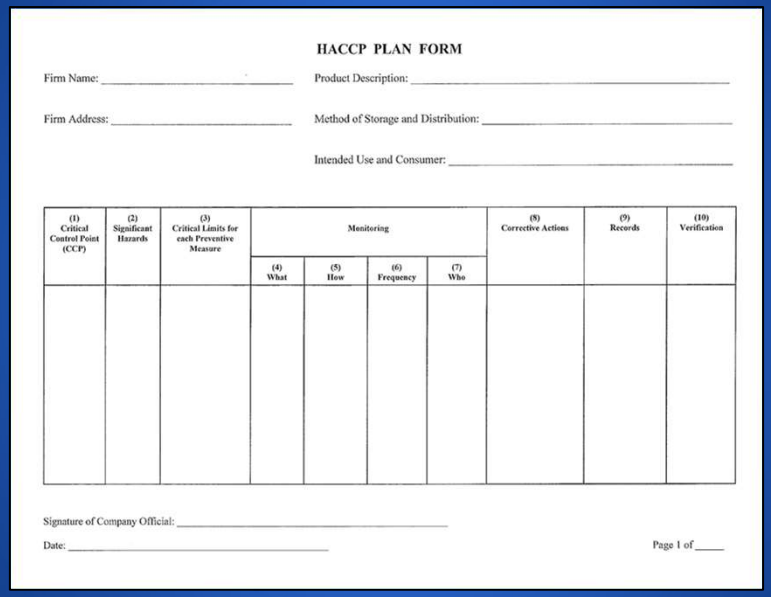
Hazards: Dehydration (making jerky)

Dehydration

- ***Pathogens***
  - Control: Time and Temperature/Humidity

  - Store under refrigeration or freezing until processed
  - Time out of refrigeration should be kept short to reduce pathogen growth
  - Employ GMPs to minimize contamination
  - **Lethality treatment** involving heat & humidity, or extra interventions to achieve the same result (e.g. subjecting meat to hot marinade to raise internal temp. To 165°F)

Blank HACCP Plan Form Examples



HACCP PLAN FORM

Firm Name: _____ Product Description: _____

Firm Address: _____ Method of Storage and Distribution: _____

Intended Use and Consumer: _____

(1) Critical Control Point (CCP)	(2) Significant Hazards	(3) Critical Limits for each Preventive Measure	Monitoring				(8) Corrective Actions	(9) Records	(10) Verification
			(4) What	(5) How	(6) Frequency	(7) Who			

Signature of Company Official: _____

Date: _____ Page 1 of ____

HACCP PLAN FORM

Firm Name	Product Description:
Firm Location	Method of Storage & Distribution:
	Intended Use & Consumer:

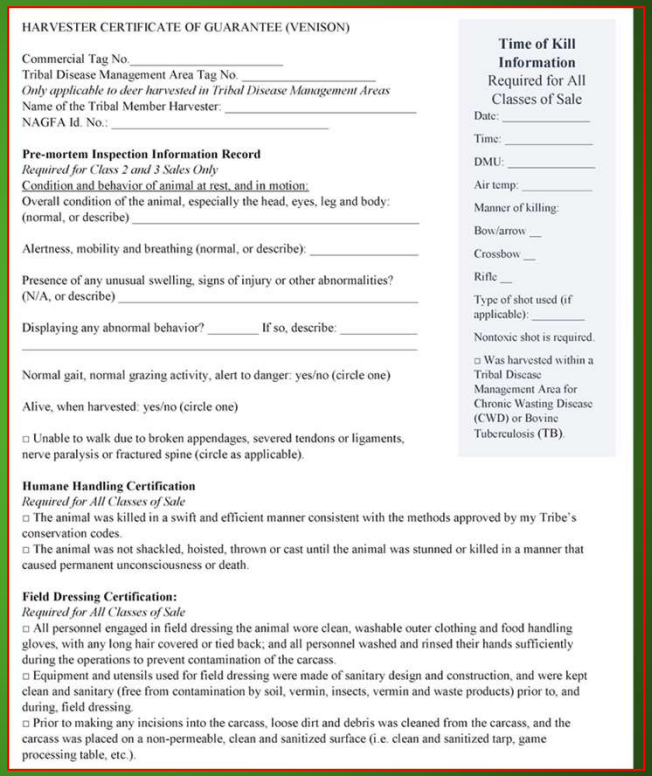
Critical Control Point (CCP)		
Significant Hazard(s)		
Critical Limits for each Control Measure		
Monitoring	What	
	How	
	Frequency	
	Who	
Corrective Action		
Verification		
Records		

Signature:	Date:

What Documents are Required?

Harvester Certificate of Guarantee

Sample →



HARVESTER CERTIFICATE OF GUARANTEE (VENISON)

Commercial Tag No._____
Tribal Disease Management Area Tag No. _____
Only applicable to deer harvested in Tribal Disease Management Areas
Name of the Tribal Member Harvester: _____
NAGFA Id. No.: _____

Pre-mortem Inspection Information Record
Required for Class 2 and 3 Sales Only
Condition and behavior of animal at rest, and in motion:
Overall condition of the animal, especially the head, eyes, leg and body: (normal, or describe) _____

Alertness, mobility and breathing (normal, or describe): _____

Presence of any unusual swelling, signs of injury or other abnormalities? (N/A, or describe) _____

Displaying any abnormal behavior? _____ If so, describe: _____
_____

Normal gait, normal grazing activity, alert to danger: yes/no (circle one)

Alive, when harvested: yes/no (circle one)

□ Unable to walk due to broken appendages, severed tendons or ligaments, nerve paralysis or fractured spine (circle as applicable).

Time of Kill Information
Required for All Classes of Sale
Date: _____
Time: _____
DMU: _____
Air temp: _____
Manner of killing:
Bow/arrow __
Crossbow __
Rifle __
Type of shot used (if applicable): _____
Nontoxic shot is required.
□ Was harvested within a Tribal Disease Management Area for Chronic Wasting Disease (CWD) or Bovine Tuberculosis (TB).

Humane Handling Certification
Required for All Classes of Sale
□ The animal was killed in a swift and efficient manner consistent with the methods approved by my Tribe's conservation codes.
□ The animal was not shackled, hoisted, thrown or cast until the animal was stunned or killed in a manner that caused permanent unconsciousness or death.

Field Dressing Certification:
Required for All Classes of Sale
□ All personnel engaged in field dressing the animal wore clean, washable outer clothing and food handling gloves, with any long hair covered or tied back; and all personnel washed and rinsed their hands sufficiently during the operations to prevent contamination of the carcass.
□ Equipment and utensils used for field dressing were made of sanitary design and construction, and were kept clean and sanitary (free from contamination by soil, vermin, insects, vermin and waste products) prior to, and during, field dressing.
□ Prior to making any incisions into the carcass, loose dirt and debris was cleaned from the carcass, and the carcass was placed on a non-permeable, clean and sanitized surface (i.e. clean and sanitized tarp, game processing table, etc.).

Questions and Feedback?

Next Unit:

Low-Risk Foods

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 6:
Low-Risk Foods

Unit Objectives

- Understand what foods are considered Low-Risk Foods
- Understand the standards and processing requirements
- Identify contaminant and food safety risks related to Low-Risk Foods

Low-Risk Foods (LRF) Definition

- Low-Risk Foods are foods that do not require a time and temperature control or refrigeration to remain safe

AND

- Foods which have been shown to not support the grown of pathogens.

Chapter 8 of the Model Food Code

Example of Low Risk Foods

- Maple Syrup
- Maple Sugar
- Wild Rice (manoomin)
- Jams and Jellies (low acid preserved foods)
- Pickles (low acid preserved foods)
- Dried fruits/teas (not including melons)
- Candy

Low Risk Food Licensing

- Low-Risk Food Vendor license is required* if low-risk food is produced **anywhere other than** a licensed food processing plant (i.e. home kitchen).

- Licenses are:
  - Issued by the tribe
  - Annual
  - Location specific
  - *Not required for the production of class 1 manoomin or class 1 sugar and syrup

- Obtain a license:
  - Submit an application
  - Participate in an inspection
  - Pay any required fees

Additional Considerations

Moderate to high risk foods are not covered by the low-risk foods regulations. High and moderate risk foods include:

- Meat products
- Fish products
- Produce: foods which are consumed raw or without a step to reduce pathogens to adequate levels
- Dairy products
- Non-food items

For vendors who produce a variety of food, including Low-Risk Foods:

- Low-Risk Food regulations only apply to the Low-Risk Foods which meet the definition of Low-Risk Food
- Other types of food should not be processed at the same time

Categories of Low- Risk Food Vendors

- Less than $50,000* in annual sales
  - Not required to be produced in a tribally-licensed food processing plant
  - Qualifies for specific exemptions namely
    - Portions of Chapter 3
    - Chapter 4 (HACCP)
    - Instead, simplified regulations for processing (Sec. 8.01(3)) apply.
- $50,000* or more in annual sales
  - Food must be produced in a tribally-licensed food processing plant
  - Must comply with the entirety of the following Model Food Code Chapters:
    - Chapter 3
    - Chapter 4 (HACCP)
    - Chapter 8 (applicable portions acc'd to food being produced)

*excluding any revenue from manoomin or syrup/sugar sales

LRF General Requirements (under $50,000 in annual sales)

- Vendors must demonstrate an understanding of the applicable food safety standards
- Foods are prepared consistent with traditionally safe methods
- Water must be safe to drink (potable)
- Any produce used is appropriately cleaned and inspected (by vendor)
- Persons preparing/packaging foods are not sick with a contagious disease

LRF Processing Requirements

Preparing and Packaging Specific:

- No other domestic activities are to be conducted during use (i.e. preparing your own meal)
- Keep premises, tools, equipment clean and sanitary in compliance with traditionally safe methods
- No animals are allowed in the workspace while in use
- Wear clean, cleanable clothing and wash hands sufficiently
- Materials used for packaging will be clean and dry prior to use if single use. Other containers should be clean and sanitized prior to use.

LRF Sale Requirements

- Low-Risk Foods, processed outside of food processing plants must be sold from processor directly to the consumer with the exception of:
  - Maple syrup
  - Maple sugar
  - Manoomin

- If sales take place off-reservation, vendors may be requested to comply with state law (i.e. cottage food laws), which differ from this regulation

LRF Labeling Requirements

Sec. 3.02 Truth in Labeling:

- All statements listed on the label must be true and not misleading
- All food, except for manomin and maple syrup/sugar, produced outside of a tribally-licensed food processing plant must be labeled "PROCESSED AND PACKAGED IN A HOME FACILITY"

Wild rice may not be labeled as "natural wild rice" or "hand-harvested wild rice" unless the contents **consist entirely of hand-harvested wild rice** and **contains no mechanically-harvested wild rice**, or **wild rice grown without the use of chemical fertilizers or herbicides**

Maple syrup may not be labeled "traditionally processed Ojibwe maple syrup" unless **the syrup was produced by boiling sap over a wood-burning fire**

Zhiiwaagamizigan Contaminant Overview

Maple syrup is a safe, low contaminant food

- Maple sap is low in chemical contamination.
- High sugar content = less water available for bacteria to grow
- Syrup is low in contaminants when processed in the absence of lead food contact surfaces
- Chemical residues can be found in maple syrup if cleaning chemicals are not properly used and removed before
- Production includes boiling, which is a “kill step”
  - Kill steps are processes or steps within food production where pathogens are eliminated or reduced to an acceptable level

Maple Syrup & the Model Code

- Maple Syrup and Sugar
  - Sugar content of finished syrup must be measured
  - FCS used for syrup/sugar production must be cleaned and sanitized prior to use, when there's break in boiling sap, or at least every 40 days
  - All equipment which comes into contact with maple sap, syrup or product should be food grade

Definitions:

"Syrup" means a liquid derived from sugar-rich tree sap, which is not less than 66 degrees Brix.

"Sugar" means a solid, grainy or viscous substance derived from sugar-rich tree sap, which was boiled beyond 66 degrees Brix and stirred.

Maple Syrup and the Model Food Code

- For Class 1 food (for on-reservation sales to tribal members):
  - Low-risk vendor license not needed
- For Class 2 and Class 3 food:
  - Low risk vendor license needed; inspection requirement
  - The final boiling and packaging of the product occurs in a licensed food processing plant or premises exempt from 21 CFR 1.225. *Residences are exempt.*
- All producers need to employ practices to keep maple syrup products safe

Photo of tribal harvester, Jerome Powless, boiling maple sap over a wood burning evaporation pan.

Keeping Maple Syrup Safe

- Sap must be covered and care taken to avoid spoilage
- Only nontoxic defoaming/filtering agents may be used
- Finished syrup needs to be checked for sugar content -- must be no less than 66 degrees brix
- Jars or bottles used for packaging maple syrup must be cleaned and sanitized prior to their use

Remember:

Tools and equipment to measure critical controls (i.e. sugar content) must be maintained in good condition and calibrated before use

Harvesting and Food Safety

Manoomin Food Safety - General

- Manomin is a low-risk food
- Food safety risks:
  - Mold
  - Sand and Rocks
  - Bacteria – Bacillus Cereus

Food safety risks are effectively managed with traditional processing techniques

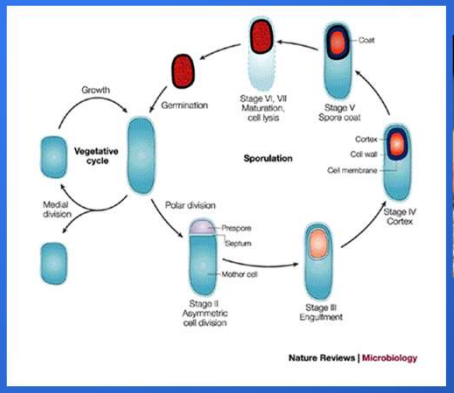
Traditional Practices for Reducing Risk- Harvester

- **Mold**
  - Lay rice out to dry as soon as possible
  - Dry rice efficiently, turning often throughout the day
  - Parch rice as soon after drying
  - Store rice in cool, dry locations both during and after the processing

- **Sand and Rocks**
  - Reasonable efforts should be made to remove or prevent sand, rocks or other inedible materials from commingling with the rice.
- **Efforts may include:**
  - Cleaning or rinsing canoe well immediately before harvesting
  - Removing sand, rocks, and debris from shoes prior to entering canoe every time you enter the canoe
  - Any items entering the canoe should be checked and cleaned of sand, rocks, and debris (i.e. dry bags, water bottles, etc.)

Reducing Risk- Consumer

- Mold
  - Store rice in cool, dry locations
- Bacillus Cereus (Cooked Rice Only)
  - Most commonly associated with <u>cooked, ready to eat rice</u>
  - After cooking rice, keep temperature **above 140 degrees F** or cool to below 41 degrees F within 2 hours.
  - Store cooked rice in temperatures below 41 degrees F
- Sand and Rocks
  - Prior to cooking, check rice for small rocks.



Manoomin in the food code

FOR SELLING WILD RICE

Manoomin Processing Standards

Manoomin which is sold pursuant to this Title shall be processed in manner that is consistent with the cultural practices specific to the [tribe], and may include the use of machines for parching, threshing and separating hulls from the finished product.

Wild rice should be processed in line with cultural practices which may include using machines.

Photo Credit: PBS Wisconsin

Manomin Processing Standards

Prior to packaging manomin harvested for donation or sale pursuant to this Title, the manomin shall be examined to ensure that it does not contain any fragments of hard, inedible material (i.e. pebbles, mud, metal shavings) exceeding 7 mm in length, with reasonable efforts made to remove all inedible materials.

Check finished manomin for pebbles or other inedible materials.

Manomin Packaging Standards

The materials used to package low-risk foods shall be kept clean and dry prior to their use, and be clean, single-use containers or containers which were cleaned and sterilized prior to their use.

Food safe materials must be used.

Manoomin Labeling Standards

Class 2/3 Label Example

Statement of Identity:
Must be prominent

Artwork should not hide or detract from label information

Signature line with name and address of the product's manufacturer, packer or distributor

Net Quantity Statement: the amount of food in the package

Sec. 3.02 Truth in Labeling:

- Wild rice may not be labeled as "natural wild rice" or "hand-harvested wild rice" unless the contents consist entirely of hand-harvested wild rice and contains no mechanically-harvested wild rice, or wild rice grown with the use of chemical fertilizers or herbicides.
- Class 3 foods must be labeled with standard statement of identity, nutrition facts, etc.

Manoomin Labels Available

Contact Owen Schwartz at GLIFWC at **(715) 685-2147**

- Labels are available at GLIFWC
  - 25 bags and labels per request
  - Only available to tribal members of GLIFWC member tribes
  - Available at no cost
- For larger producers
  - Electronic copies of the label or nutrition facts are also available
  - Available at no cost

Jams, Jellies, and Pickles

- Are considered low risk foods if they are “acidified” fruit preserves or vegetable pickles
- The pH of the finished product needs to be measured with a pH meter or equivalent device to ensure that the **pH is 4.6 or lower**
- Producers need to make and keep a record for each batch, documenting the pH measurement
- Jars used to package need to be cleaned and sterilized

Remember:

Tools and equipment to measure critical controls (i.e. pH) must be maintained in good condition and calibrated before use

Group Exercise

Identify the steps involved in:

(1) becoming a low-risk food vendor (beginning business, starting with no revenue) and

(2) making a batch of pickled ramps for sale.

Summary

- Low-risk food vendor licenses are required for those who make low-risk foods in locations other than a tribally licensed food plant (only available for vendors who sell less than $50,000 gross in annual sales)
- The following apply to low-risk foods:
  - If produced out of a licensed food processing plant, must be labeled: “PROCESSED AND PACKAGED IN A HOME FACILITY”
  - Required records on critical control points should be kept for each batch
- Wild rice and maple syrup/sugar are low-risk foods which qualify for additional exemptions and specialized labeling

Questions and Feedback?

Next Unit:

Produce

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 7:
Produce

Unit Objectives

- Become familiar with the terms used in Chapter 7 (Produce)
- Understand which standards apply to various types of harvesters
- Compare food safety standards applicable to produce vs. other products

Great Lakes Indian Fish & Wildlife Commission

Produce Chapter -- Background

- The Food Safety Modernization Act (FMSA) is a federal law that was passed in 2011
- One objective of FMSA was to create food safety standards for fresh produce in order to prevent widespread sickness associated with shipments of contaminated produce
- For the first time, many farms and produce packing facilities are subject to safety standards and inspections
- Smaller producers, and those that serve local markets are exempted from the highest standards created in the FSMA

Great Lakes Indian Fish & Wildlife Commission

Produce Chapter -- Background

Chapter 7 of the GLIFWC Model Code is equivalent to the FMSA, but adapted to Ojibwe foods and the manners in which they are harvested

Produce Chapter -- Terms

- **Produce** is any fruit, vegetable or mushroom and includes tree nuts and herbs. DOES NOT include grains (i.e. manomin)
- **Covered produce** is produce which is consumed raw, **not subject to processing** (i.e. cooking) that adequately reduces the presence of microorganisms of public health significance. Does not include:
  - Beach peas
  - Cranberries
  - Hazelnuts
  - Wild mushrooms
  - Fiddlehead ferns

Great Lakes Indian Fish & Wildlife Commission

Produce Chapter -- Types of Harvesters

- Qualified small and very small business
  - Average monetary value of **produce** sold is no more than $500,000 and majority of sales are direct sales located in same rez/state or no more than 275 miles away
- Harvester earning less than $25,000 per year on **covered produce** for 3 years (rolling basis)
- All others ("non-exempt harvester")

Produce Chapter -- Food Safety Concerns

- Mold and fungus
  - May be present in overripe produce
- *E. coli*, Hepatitis A
  - Bacteria/virus that causes illness in humans, and can lead to death.
  - Biological pathogens contaminate crops through a variety of vectors:
    - Irrigation and flooding
    - Improper use of manure within fields
    - Animal excreta (wild animals & pets) and soil
    - Unclean hands, equipment or storage compartments

Produce Chapter -- FSMA Exempted Harvester

When harvesting plants and mushrooms, the people harvesting must:

- Wear clean clothes, wash and rinse hands as frequently as necessary to keep them clean
- Have access to toilet facilities, including off-site
- Have training on proper hand cleaning, hygienic practices, etc.
- Not harvesting when sick with a communicable disease that could transfer to food (i.e. Hepatitis A)
- Have access to clean potable water for drinking

Produce Chapter -- FMSA Exempt Harvester

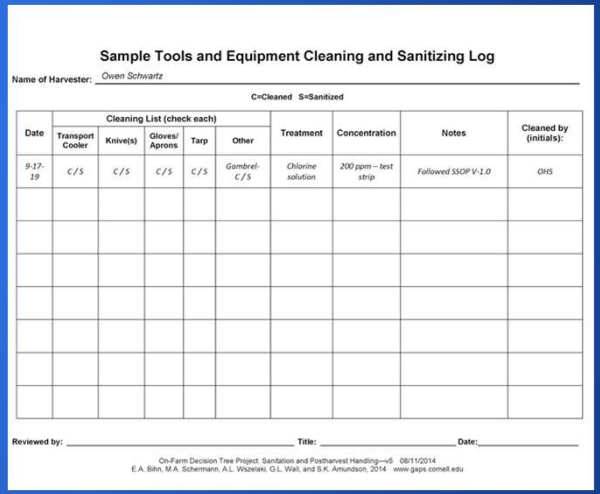
- Equipment, tools, vehicles, bins, etc. used must be **appropriate for harvesting**, be **clean before their use**
- Contaminated produce may not be sold
  - Upland plants in areas that have been recently flooded
  - Any plant contaminated by animal poop
  - Dropped produce (except for root plants)
- Packaging
  - Clean packaging materials must be used
  - Packaging must inhibit growth of pathogens
  - Mushrooms, if enclosed, must be wrapped in aerobic packaging (i.e. breathable film or paper packaging)

Produce Chapter -- Mushroom Picking

- Some wild mushrooms can carry chemical or biological risk to humans, which can lead to illness or death
- Prior to selling wild mushrooms, tribal mushroom harvesters must successfully **complete training on mushroom identification**, as required by the tribe
- Mushrooms are the only produce product that must be labeled, with the following information on the label:
  - Common name and scientific name of mushroom
  - Harvester name and address
  - Date of harvest
  - "WILD MUSHROOMS: CLEAN WELL AND COOK THOROUGHLY BEFORE CONSUMING"

Produce Chapter -- Non-Exempt Produce Harvester

- FMSA approach to regulating covered produce involves elements of SSOPs/GMPs and HACCP
  - Detailed requirements for personnel, protecting covered produce from contamination by animals, maintenance and cleaning of tools and equipment, standards for packing sheds, documentation and records
  - These standards apply to harvesting, holding and packing **covered produce**



Sample Tools and Equipment Cleaning and Sanitizing Log

Name of Harvester: *Owen Schwartz*

C=Cleaned S=Sanitized

Date	Cleaning List (check each)					Treatment	Concentration	Notes	Cleaned by (initials):
	Transport Cooler	Knive(s)	Gloves/ Aprons	Tarp	Other				
9-17-19	*C / S*	*C / S*	*C / S*	*C / S*	*Gambrel- C / S*	*Chlorine solution*	*200 ppm – test strip*	*Followed SSOP V-1.0*	*OHS*

Reviewed by: _____ Title: _____ Date: _____

On-Farm Decision Tree Project: Sanitation and Postharvest Handling—v5 08/11/2014
E.A. Bihn, M.A. Schermann, A.L. Wszelaki, G.L. Wall, and S.K. Amundson, 2014 www.gaps.cornell.edu

Produce Chapter -- Non-Exempt Produce Harvester

- Non-Exempt Produce Harvesters are licensed through the tribal licensing authority
- Submission of an application, payment of fees and an inspection is required

- No license or inspection is required for FMSA exempt produce harvesters

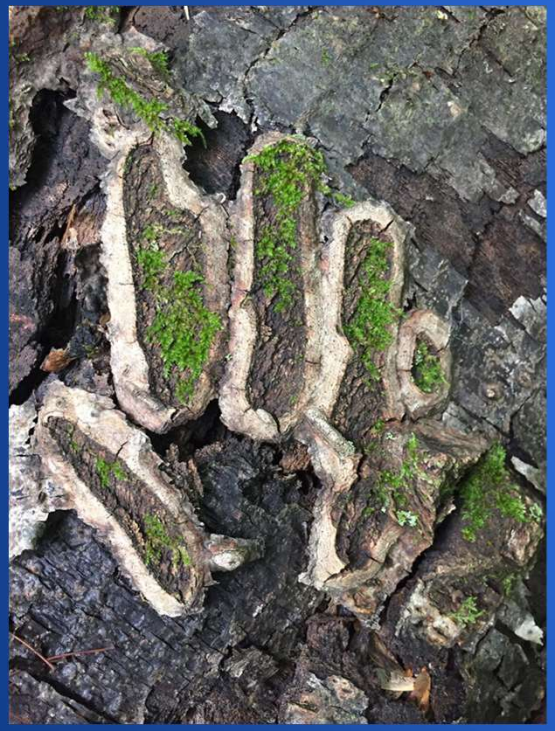
Group Exercise

Identify one difference between FMSA exempt plant harvest requirements and non-exempt produce harvester requirements

Produce Chapter -- Applicability of General Standards

- Except for mushrooms, produce is exempted from labeling requirements
- Food transportation and storage requirements apply: produce must be protected from contamination during storage and transportation and held in conditions that preserves its integrity
- Inedible food byproducts (i.e. dropped produce, spoiled produce) must be separated from produce meant for sale and placed into waste receptacles

Produce Chapter -- Applicability of HACCP and SSOPs



- Chapter 4 (HACCP) applies to food processing plants and class 1 meat/fish vendors
- Sec. 3.08 (SSOPs) apply to the above, plus retail food establishments
- Locations **dedicated only to packing produce** do not need to create HACCP or SSOP documents

Watch out for multi-use facilities
if covered produce is being packed in the same location as raw fish or meat is processed or stored, there is a risk of cross-contamination that will likely require a HACCP plan.

Great Lakes Indian Fish & Wildlife Commission

Questions and Feedback?

Next Unit:

Review and Resources

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org

Session 8:
Review and Resources

Review

- Treaty-reserved traditional foods are safe for consumption
- Tribes are in charge of regulating “treaty rights” related activities
  - As long as they **effectively** regulate their people and **protect** legitimate State conservation, health and safety interests
- The Model Food Code only applies when it is adopted by the tribe, which may be in part or in whole.

Review

- Harvesters, food facilities, and retail establishments must adhere to the standards provided in Chapter 3 - General Provision of the Model Food Code. For example:
  - Sanitation Requirements
  - Personnel training
  - Water quality
  - Licensing and Enforcement

- Specific requirements are outline in the remaining, topic based chapters of the Model Food Code

Review

- All food carries some level of risk, typically categorized as:
  - Biological risks or hazards
  - Chemical risks or hazards
  - Physical risks or hazards
- Biological hazards can be reduced by time and temperature, proper holding and cooking temperatures, and good hygiene and sanitation practices
- Chemical hazards can be reduced through harvest site or tool selections, size of harvest (fish), and proper use and storage of cleaning solutions
- Physical hazards can be reduce by choice of harvest ammunition and visual inspection

Resources

Great Lakes Indian Fish and Wildlife Commission

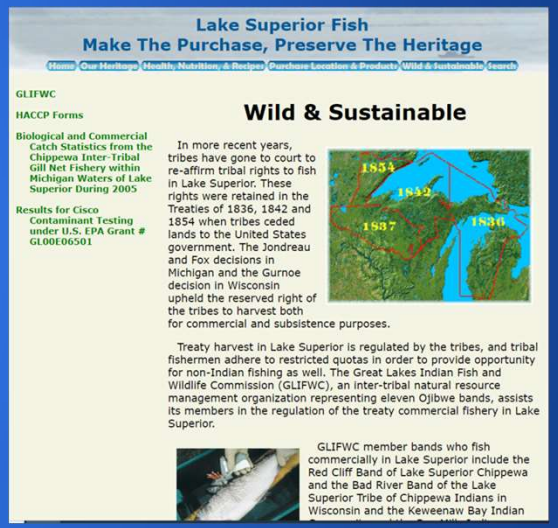
- GLIFWC website: GLIFWC.org
- Harvesting Regulations: http://data.glifwc.org/regulations/
- Training Manual
- Pre-recorded webinars
- GLIFWC YouTube page:

  https://www.youtube.com/user/glifwc

Fish Resources- GLIFWC

Great Lakes Indian Fish and Wildlife Commission

- Great Lakes Fish (Whitefish)
  - http://glifwc.org/lakesuperiorwhitefish/Sustainable.html
  - Whitefish contaminant studies, HACCP forms, whitefish marketing materials
  - Seafood HACCP Training
- Mercury Maps
  - http://glifwc.org/Mercury/
  - Guidance for safe consumption of walleye from inland lakes in ceded territory
  - For questions, contact Dr. Sara Moses at smoses@glifwc.org



Fish Resources - Sea Grant programs

State-based Sea Grant programs:

- Michigan:
  https://www.michiganseagrant.org/
- Wisconsin:
  https://www.seagrant.wisc.edu/
- Minnesota:
  http://www.seagrant.umn.edu/
- Florida:
  https://www.flseagrant.org/seafood/haccp/
  - Seafood HACCP tools and education

Fish Resources - HACCP

US Food and Drug Administration

- *Fish and Fisheries Products Hazards and Control Guidance* (March 2020)
  - https://www.fda.gov/food/seafood-guidance-documents-regulatory-information/fish-and-fishery-products-hazards-and-controls
  - Excellent resource on fish and fish product hazards and controls. Fish HACCP plans are difficult to write without this book. Free download and supplemental material

Association of Food and Drug Officials

- www.afdo.org
- HACCP training information and industry updates

Meat Resources- CWD

- **GLIFWC**
  - https://data.glifwc.org/cwd/
  - Contact Travis Bartnik with questions at tbartnik@glifwc.org
- **Tribal and State Natural Resource Departments**
- **USGS**- nationwide maps on CWD detections

  https://www.usgs.gov/centers/nwhc/science/chronic-wasting-disease?qt-science_center_objects=0#qt-science_center_objects
- **CWD Alliance**- US wide information on CWD
  - http://cwd-info.org/

Meat Resources- HACCP & Food Safety

- **Intertribal Agriculture Council**
  - https://www.indianag.org/
- **Association of American Meat Producers-** industry resources and HACCP assistance
  - www.AAMP.com
- **International HACCP Alliance**
  - http://www.haccpalliance.org/sub/index.html
- **USDA Food Safety & Inspection Service**
  - https://www.fsis.usda.gov/wps/portal/fsis/home

Produce and Low-Risk Food Resources-

- **Indigionous Food and Agriculture Initiative- Produce and additional Model Food Codes**
  - https://indigenousfoodandag.com/
- **Produce Alliance- information and training on produce and new FSMA regulations**
  - https://www.producealliance.com/
- **National Association of Home Food Preservation-** instructions and tested recipes
  - https://nchfp.uga.edu/

Questions and Feedback

Miigwetch gaa-bizindaawiyeg!

Thank you for listening!

Philomena Kebec
Policy Analyst
pkebec@glifwc.org

Owen Schwartz
Community Dietitian
ohschwartz@glifwc.org