Okanagan Sockeye Re-Introduction Program-overview and Lessons Learned

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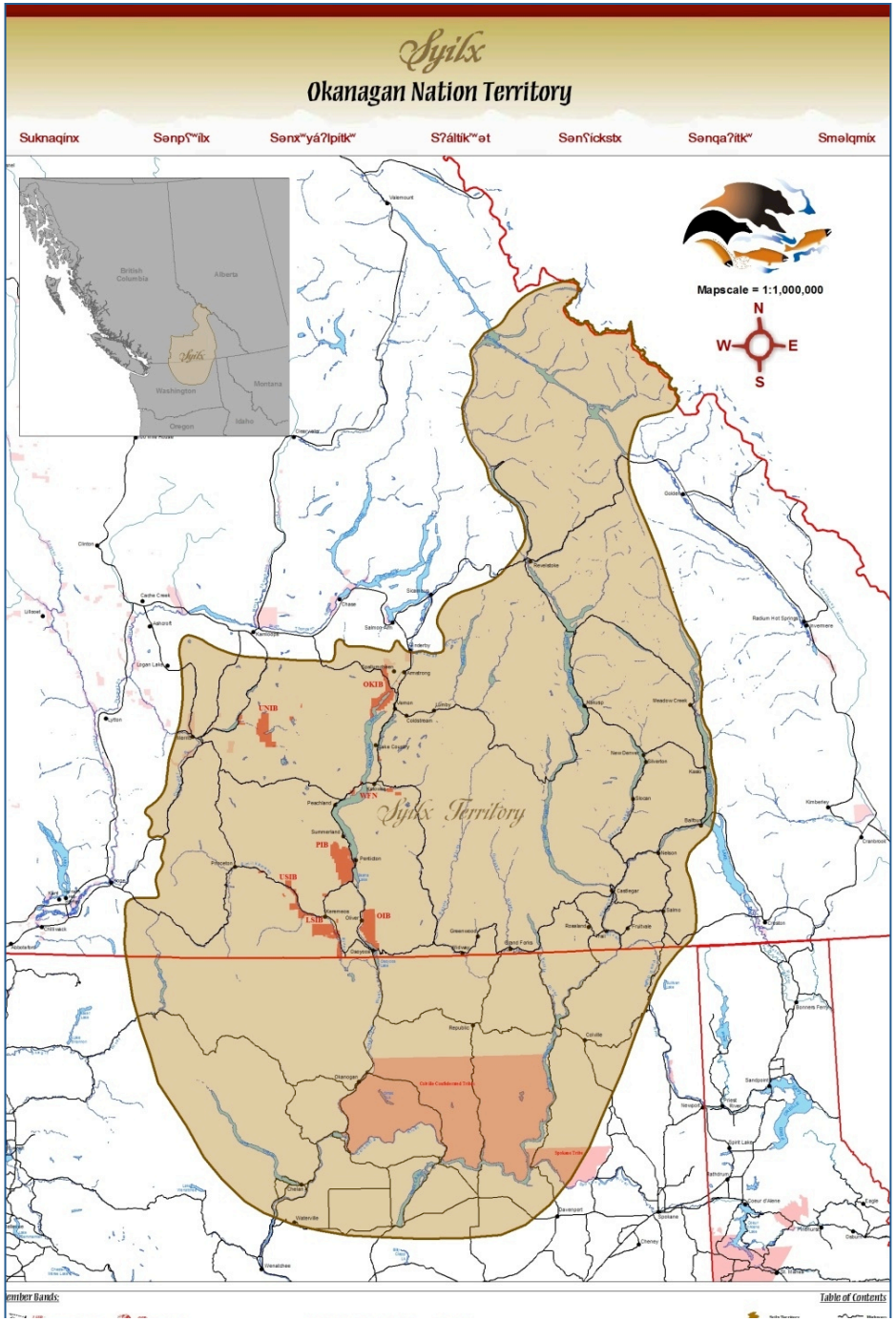
Future of our Salmon Conference April2014

syilx Okanagan Nation Alliance



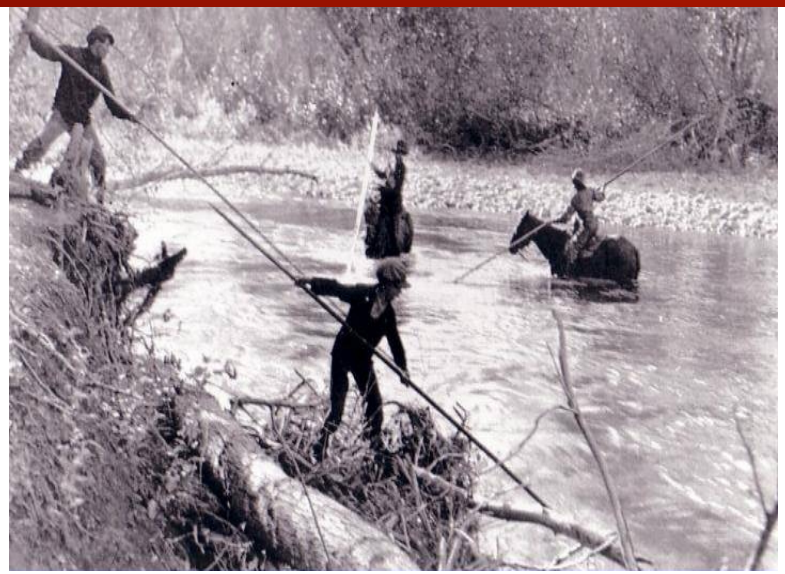
Revitalization of an Okanagan Fishery & the *Salmon* People

Seven member band communities:

1. Osoyoos Indian Band
2. Penticton Indian Band
3. Westbank First Nation
4. Okanagan Indian Band
5. Upper Nicola Band
6. Lower Similkameen Band
7. Upper Similkameen Band, and

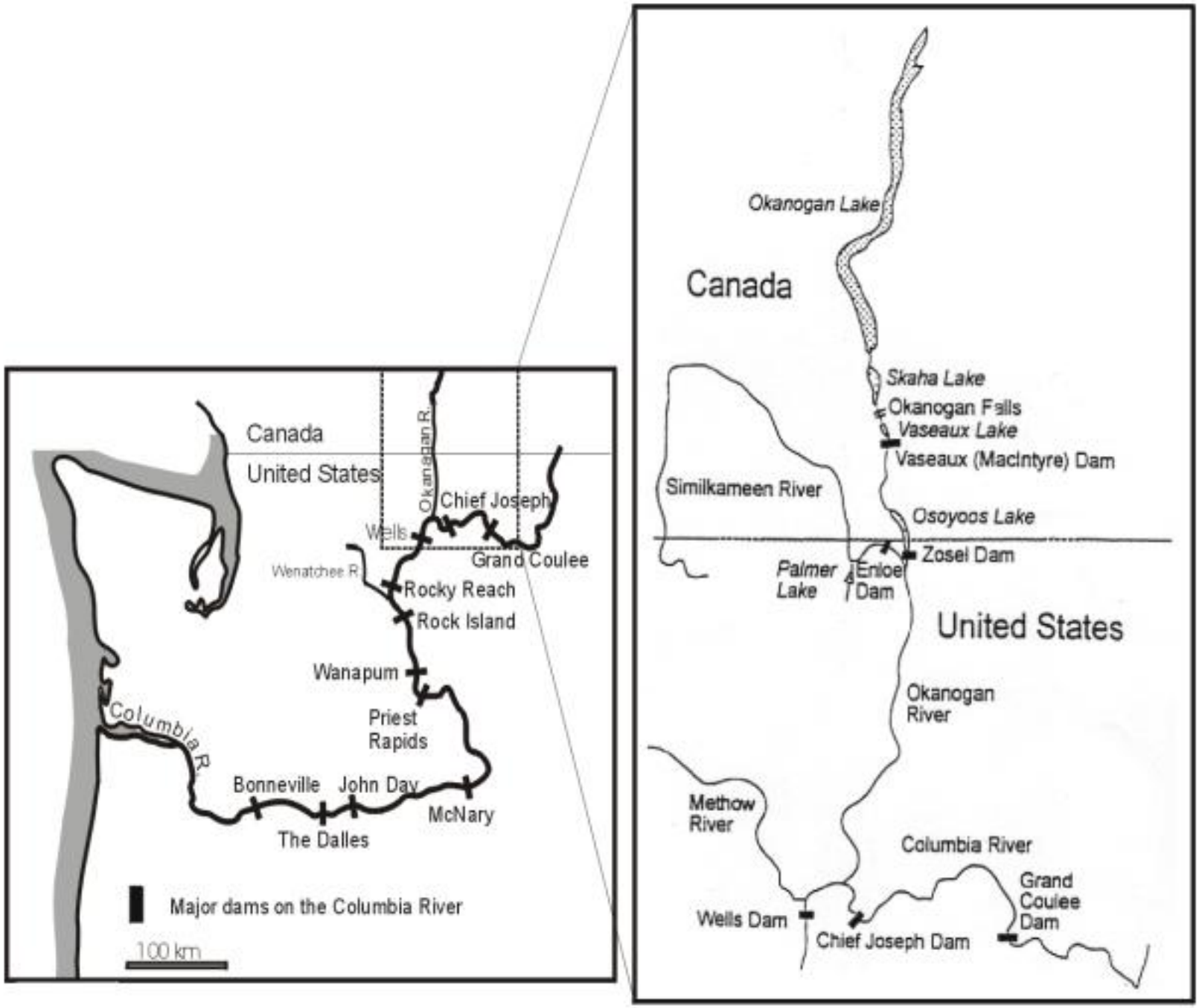
8. Colville Confederated Tribes (USA)

Salmon Integral to Okanagan Culture



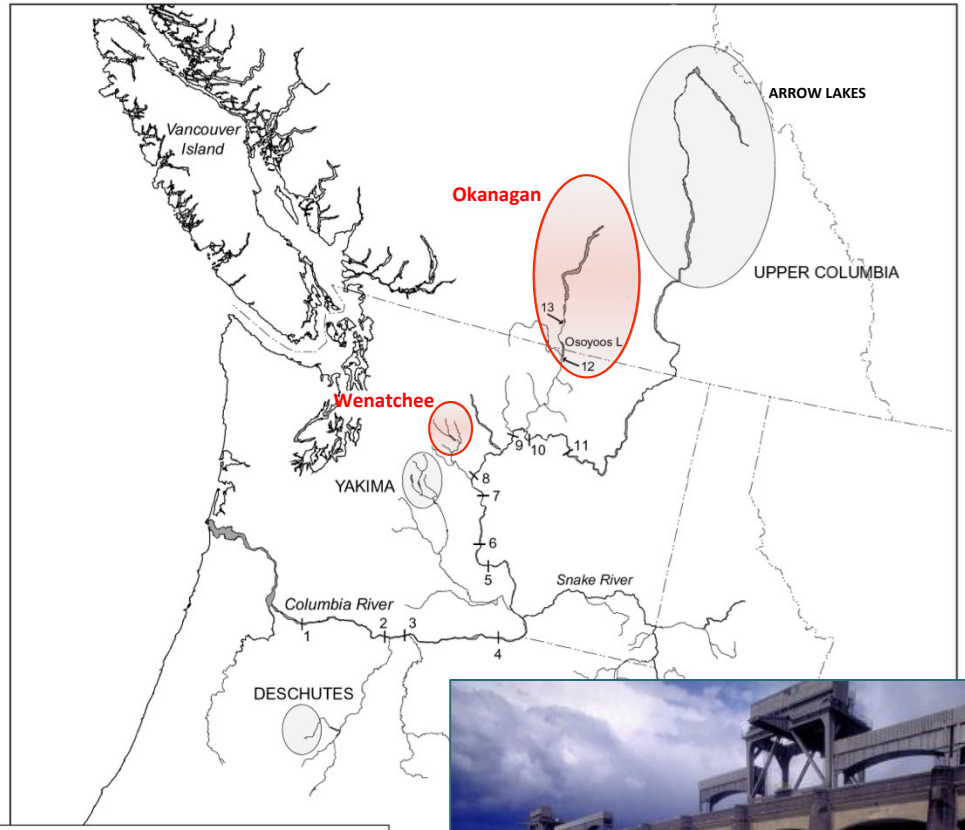
History

- Commercial Salmon Fisheries U.S. (1870's)
- Historical decisions did not consider importance to Okanagan fisheries
  - Mainstem Columbia River Dams (1933)
  - Grand Coulee Dam blocks access to Upper Columbia (1938)
  - Grand Coulee Dam Fish Maintenance Project (1939-1943)
  - Columbia River Treaty (1961)
  - Okanagan River Channelization and salmon Access in Okanagan River restricted (McIntyre Dam -1915)


Canada
United States
Okanogan R.
Chief Joseph
Wells
Grand Coulee
Wenatchee R.
Rocky Reach
Rock Island
Wanapum
Priest Rapids
Columbia R.
Bonneville
John Day
McNary
The Dalles
Major dams on the Columbia River
100 km
Okanogan Lake
Canada
Skaha Lake
Okanogan Falls
Vaseaux Lake
Vaseaux (MacIntyre) Dam
Similkameen River
Osoyoos Lake
Zosel Dam
Palmer Lake
Enloe Dam
United States
Okanogan River
Methow River
Columbia River
Grand Coulee Dam
Wells Dam
Chief Joseph Dam

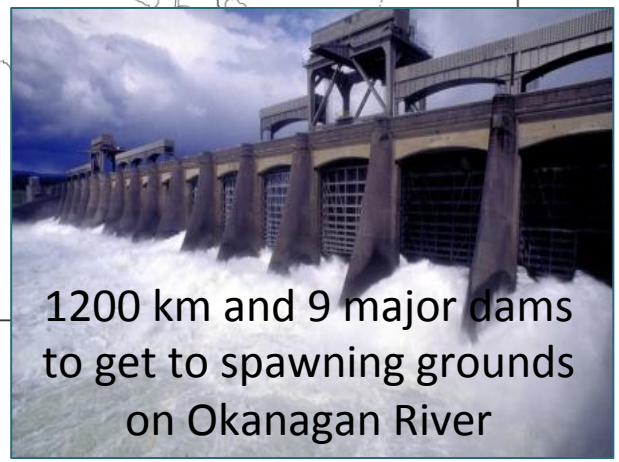
Background: Okanagan Sockeye

- Okanagan sockeye population is one of three remaining Columbia River stocks
- Mid 90's less than 3,000; by 2010 via restoration returns over 200,000
- Okanagan run now makes up 70-90% of all Columbia river sockeye



COLUMBIA RIVER DAM SITES

1	Bonneville	7	Rock Island
2	The Dalles	8	Rocky Reach
3	John Day	9	Wells
4	McNary	10	Chief Joseph
5	Priest Rapids	11	Grand Coulee
6	Wanapum	12	Zosel
		13	McIntyre



Columbia River sub-basins historically accessible to sockeye

Columbia River sub-basins with present day viable sockeye populations

Sockeye Reintro Program Overview

- Initiated in early 1990's
- COBTWG (Canadian Okanagan Basin Technical Working Group)
- Three-year risk assessment completed in 2003
- 12 Year Reintroduction Program (2004-2016) into Skaha Lake
- Adaptive management framework
- Funded by Grant and Chelan County Public Utility District (Columbia hydro mitigation)
- Stepwise approach prior to Okanagan Lake
- Extensive Monitoring
- Decision at end of program for fish passage into Skaha

British Columbia

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Fisheries and Oceans Canada

Pêches et Océans Canada

Initiation Phase (1996-1998)

1. Proposed reintroduction into Okanagan Lake 1996
2. Federal fisheries funding 1997 expert workshop
3. Use Skaha Lake as stepwise approach
4. Proposal developed and submitted to BPA by CCT
5. Evaluation funding through CCT contracted to ONA

Evaluation Phase (1999-2003)

BPA funded – proposal by ESSA through CCT – determine viability

1. **Disease risk assessment**
2. **Exotic species risk assessment**
3. **Habitat assessment**
4. **Develop Life-cycle model**
5. **Evaluate Alternative Strategies**
6. **Develop Implementation Plan**

Evaluation Phase (1999-2003)

Results

1. **Disease agents - low risk, pending *parvicapsula (ONA/DFO)***
2. **Exotic species - low risk (Bluegill, LMB, Black Crappie, Tench) (ONA/CCT)**
3. **Habitat assessment - spawning limited; rearing increase (ONA/DFO)**
4. **Life-cycle model - Developed by ESSA**

5. **Evaluate Alternative Strategies – ESSA**

6. **Implementation plan - ONAFD**

Implementation (options)

1. **Open barriers and allow sockeye to establish naturally**
2. **Trap and transport adults into Skaha Lake**
3. **Release hatchery fry from wild Okanagan broodstock into Skaha Lake**

   Look at risks to current Osoyoos population

Implementation Phase (2004-2015)

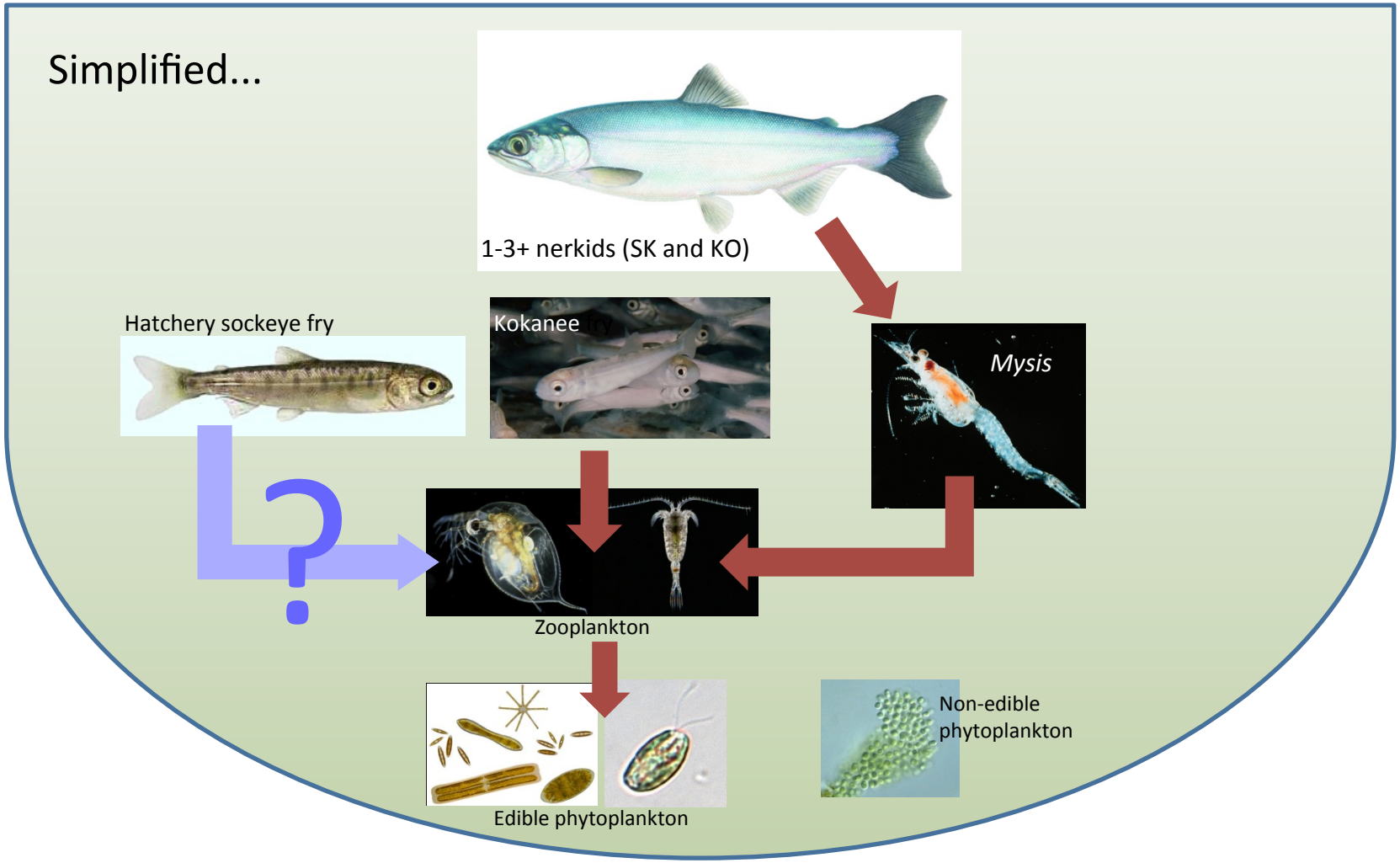
- **2003 pilot year**
- **Yrs 1- 4: fry out-plants, M&E, hatchery options, update sockeye model**
- **Year 4 – 12: fry out-plants and M&E, transport adults into Skaha Lake,**
- **Year 12: Evaluate removal of barriers & allow sockeye to re-establish naturally, consider continuing fry out-plants, continue M&E**

Program Overview: Key Questions

Key questions include (not limited to):

- **What impacts will sockeye have on existing kokanee stocks?**
- **What components of the food web and physical environment most strongly control the production of sockeye and kokanee?**
- What are the effects on the existing Osoyoos sockeye population?
- Learn for Okanagan Lake

Skaha Lake Pelagic Food Web



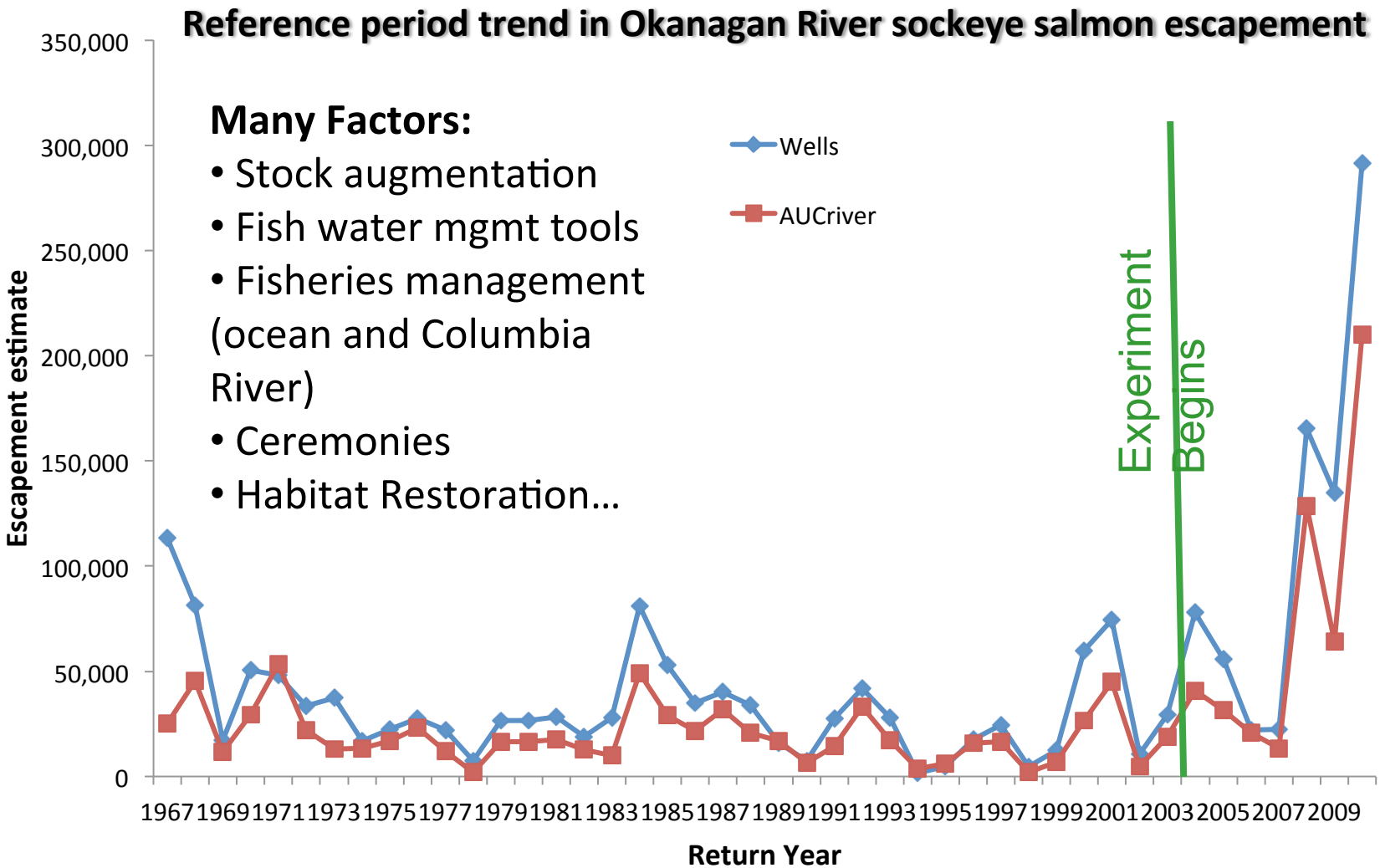
Summary of Program Results to Date

- Results from monitoring impacts of sockeye reintroduction are promising so far
- Relatively good juvenile abundance, growth, and survival
- Low impact to native fishes (such as kokanee)
- Increased understanding that *Mysis* shrimp are driving the foodwebs
- Increased Okanagan River sockeye escapement in recent years (2012 highest on record), but many factors involved and we expect to see some smaller runs in the near future

Future Direction

- Construct & operate Penticton hatchery for releasing up to 3.5 million sockeye fry and monitor fish-forage interactions (Aug 2014)
- Design and construct fish passage at Skaha Lake dam (fish passage by 2015)
- Expand telemetry program (acoustic and PIT arrays) to monitor adult and juvenile behaviour (CRITFC accord project)
- Specify long term biological goals
- Recommend management actions and re-establish timeframes and priorities for Okanagan Lake Reintroduction – expert workshop end of April 2014
- Habitat Restoration and improvement

How are the sockeye run doing?



Food fisheries/culture

- Okanagan Falls Salmon feast
- Salmon in diet
- Revitalizing a fishery
- Cultural ceremonies

Starting to see benefits-economic and recreational fisheries

Tribal owned sockeye Hatchery

ONA Hatchery – Aug 2014

Process – History – Funding

- **1994/1995 federal funding – Aboriginal Fisheries Strategy (AFS)-Canadian Columbia River Intertribal Fisheries Commission (CCRIFC) – mandate salmon restoration!**

- **Regional biologist hired in Okanagan through CCRIFC became the seed for the ONA fisheries dept. now 30 f/t;**

- **Okanagan Nation Fisheries Commission – est. 1995 to focus on OK salmon restoration (smaller bite first)**

- **ONFC separated from CCRIFC in 1999 due to consultation issues and government– 3 staff in Upper Columbia – some for salmon restoration**

- **Salmon expertise developed - Skaha program currently funded by Grant and Chelan Public Utility districts**

Process - History – Technical

- **Request to Canadian federal fisheries (1995/96) – technical workshop and status report (Hyatt and Rankin 1999); need a federal support!**

- **Discussion on Pacific Salmon Treaty level bilateral technical working group (mid 1990's) – initially whole Columbia later focused on Okanagan**

- **didn't agree – ad hoc Bilateral Okanagan Basin Technical Working Group (BOBTWG)**

- **Continued on Canadian side to formalize Canadian Okanagan Basin Technical Working Group (COBTWG) – formalized TOR July 2003 (almost 10 yrs)**

- **Now COBTWG Skaha sub-committee (ONA/DFO/MOE)**

Process – Policy

- **After evaluation phase found Reintroduction feasible ONA submitted proposal to Introductions and Transfers Committee (ITC) for pilot reintroduction (2003)**
- **Tri-lateral government TOR outlines process to deal with policy issues – learning – jurisdictional issues**
- **ONA-Federal-BC policy mtg (June 2003) – Skaha program**
- **Last one June 2011 – water priority issue**
- **Tribal ONA/CCT – 2001 LOU on salmon restoration (includes Upper Columbia), 2010 Unity protocol**

Lessons Learned to date

- **Funding-need it**
- **Consider scoping down to phased approach (above chief Joseph? Grand Coulee – transboundary reach?)**
- **Government/FN Technical Process**
  - **Transboundary?**
  - **Canada – federal support (champion)**
- **Policy process (transboundary?)**
  - **Recognize jurisdictional issues (e.g. province/federal)**

Lessons Learned - Continued

- **Need tribal support (ONA/CCT, CCRIFC, Secwepemc Communities, UCUT, CRITFC, independent tribes)**
  - **Recognize there will be tribal issues (both sides of border)**
  - **Agree on passage, recognize additional discussion on Canadian side- eh**
  - **Recognize government will use that (classic divide and conquer)**
  - **Recognize legal differences between Canada and the U.S. for tribes**

Lessons Learned - Continued

- **Communication, relationship building**
- **Persistent - keep process going (2003 pilot year);**
  - **a lot of people retire in 12 years <‘)))))))>< NEW GENERATIONs**
- **ONA/CCT will use their transboundary experience to work towards passage in upper Columbia**
  - **CCT Chief Joseph hatchery**
  - **ONA sockeye hatchery**

Lim Limp’t (Thank You)

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