

FRASER RIVER STURGEON CONSERVATION SOCIETY

Lower Fraser River White Sturgeon Monitoring and Assessment Program

Population and Stock Status 2006



Troy Nelson, Fraser River Sturgeon Conservation Society
Bill Gazey, W.J. Gazey Research
Karl English, LGL Limited environmental research associates
Rick Hansen, Fraser River Sturgeon Conservation Society



Fraser River Sturgeon Conservation Society



Vision

"That sturgeon populations in the Fraser River are strong, healthy and sustainable for future generations."

Fraser River Sturgeon Conservation Society



Mission

To conserve and restore Fraser River sturgeon by:

- Conducting research relating to Fraser River sturgeon and to disseminate the results
- Educating and increasing the public's understanding of Fraser River sturgeon

FRSCS Program Volunteers



*True stewards
of the resource*

- Test Fisheries (Albion, PSC)
- Angling guides and clients
- First Nation fishermen and catch monitors
- Provincial and federal enforcement officers
- Recreational anglers
- Students and academic researchers
- Commercial net fishermen
- Selective fisheries programs
- DFO catch monitors and charter patrolmen



FRSCS Sturgeon Stewardship: Program Sponsors

- Canadian National Sportsmans Shows
- Chilliwack River Hatchery
- Endswell Foundation
- Environment Canada
- Fisheries and Oceans Canada
- Fraser River Discovery Centre
- Fraser Valley Angler Guide Association
- Habitat Conservation Trust Fund
- HSBC Bank Canada
- Inch Creek Hatchery
- LGL Limited environmental research associates
- Lower Fraser River First Nations/Bands
- Marine Trades Association
- Ministry of Environment
- Nature Trust of BC
- Nikka Industries
- North Growth Foundation
- Rick Hansen Man in Motion Foundation
- Vancouver Foundation
- Vancouver Port Authorities
- Vancouver Public Aquarium
- Willow Grove Foundation



Fraser River Sturgeon Conservation Society Monitoring and Assessment Program – December 2006



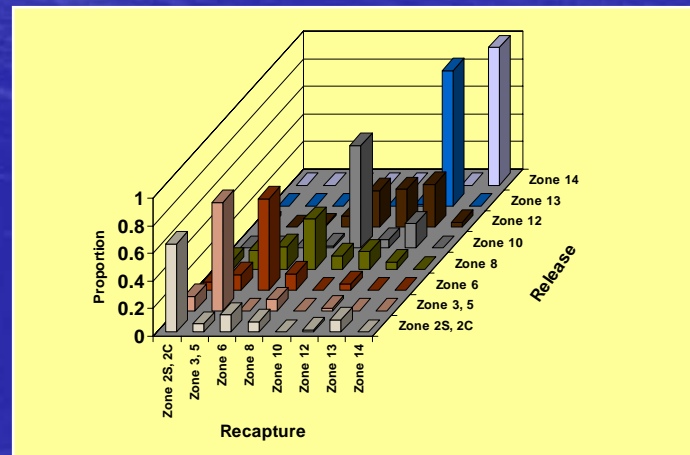
Tagged: 30,409



Sampled: 47,044



Recaptured: 11,898



Current recapture rates: 42-47%

Fraser River Sturgeon Conservation Society

Monitoring and Assessment Program – December 2006

Lower Fraser River White Sturgeon Monitoring and Assessment Program

Sampling Summary 1999-2006

Total No. tags applied (head), including re-tags of dorsal recaps	30,409
Total No. recaptures (head)	11,898
Total No. angled fish scanned	38,371
Total No. fish scanned from First Nation net fisheries	4481
Total No. fish scanned by the Albion Test Fishery	3531
Total No. fish scanned by "other" (PSC, morts, enforcement, etc.)	661
Total No. scanned (angled + FN net + Albion + other)	47,044
Total unique dorsal tags recaptured (most released with head tag)	280

Total Fork Lengths

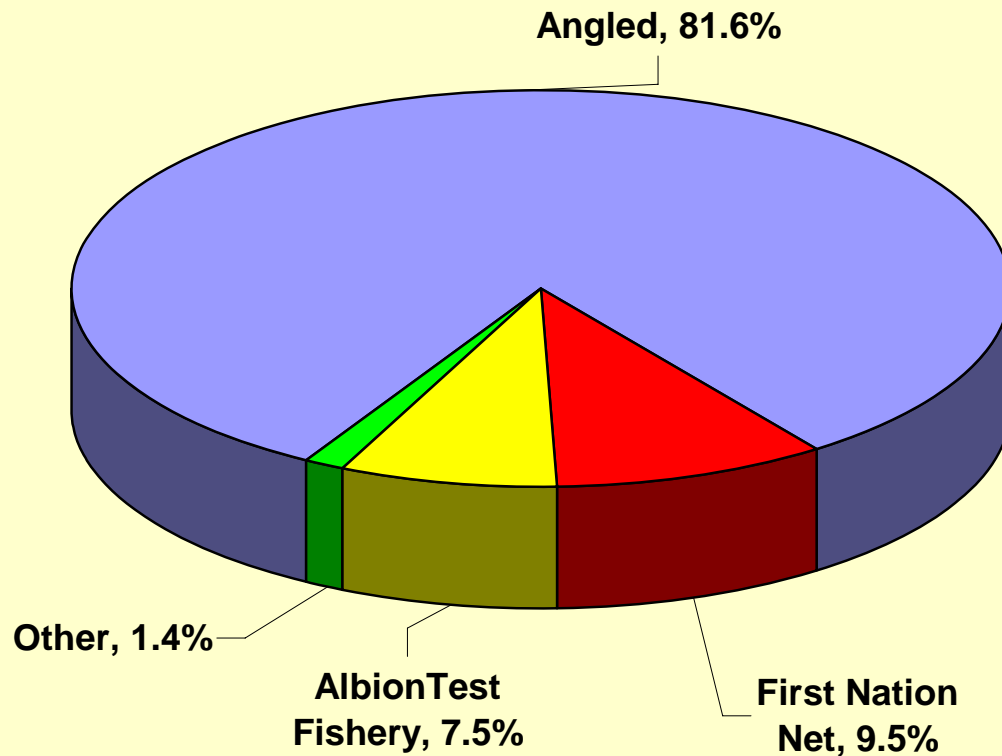
Total cm (fork length) of all sturgeon measured	5,145,957
m	51,460
km	51.5

* *On-river distance from the Port Mann Bridge to Hatzic Slough (Mission)*

Fraser River Sturgeon Conservation Society

Monitoring and Assessment Program – December 2006

Source of Sturgeon Samples 1999-2006
(*n* = 47,044)



Number of Recaptures

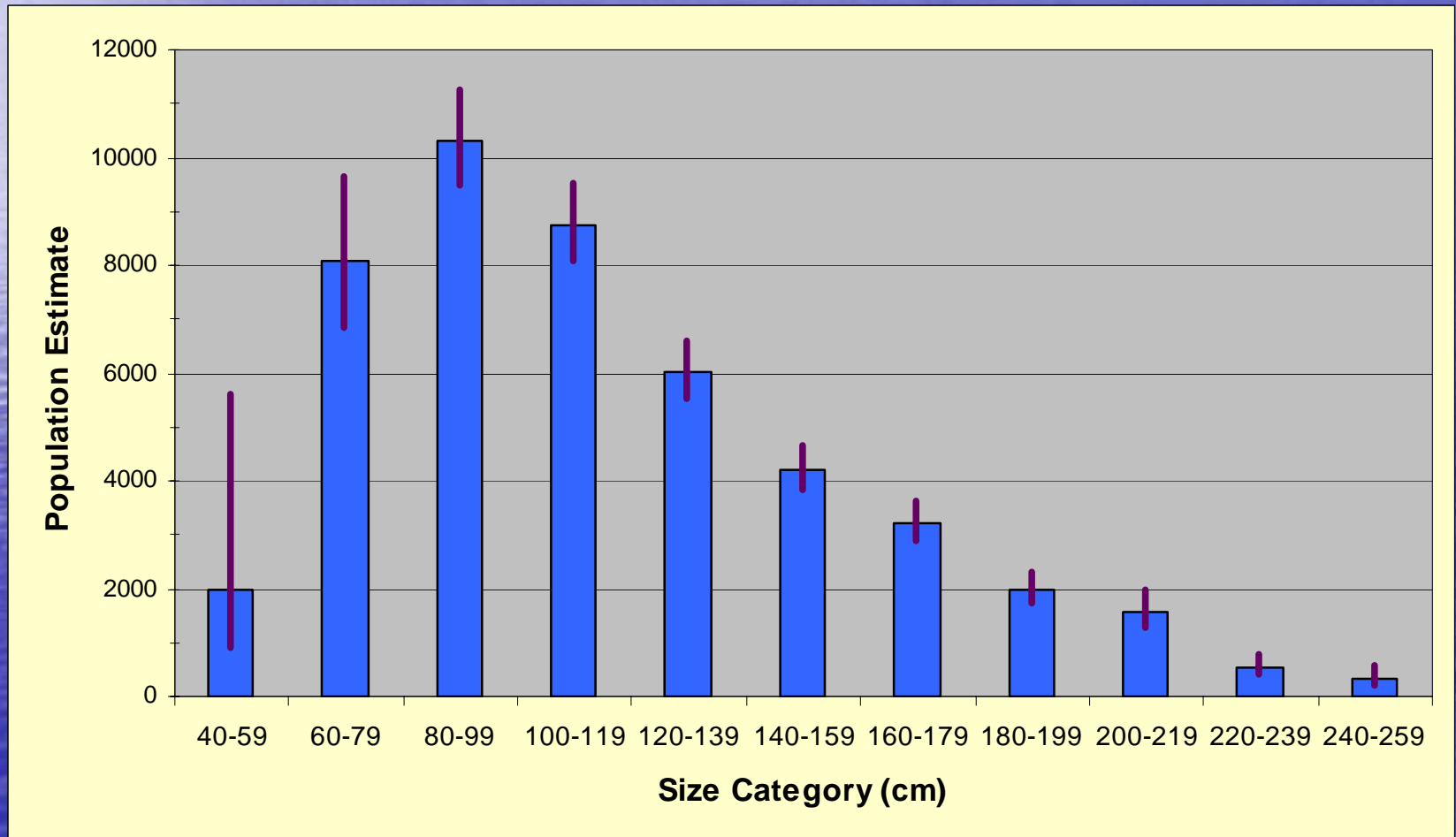
1	5838
2	1698
3	538
4	153
5	58
6	15
7	8
8	1
Total	8309

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Monitoring and Assessment Program – December 2006

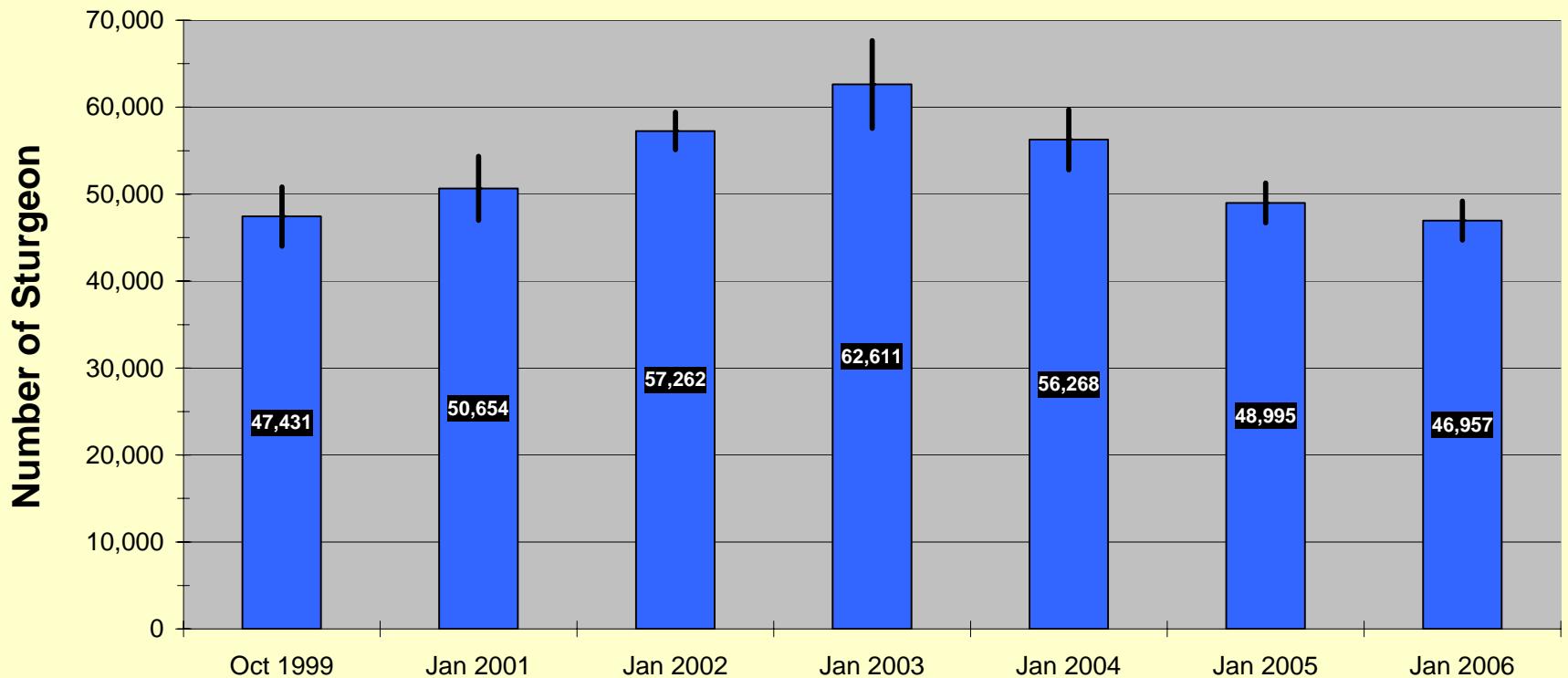
2006 Mean Estimate: 46,957

95% CL: +/- 4.8% of mean

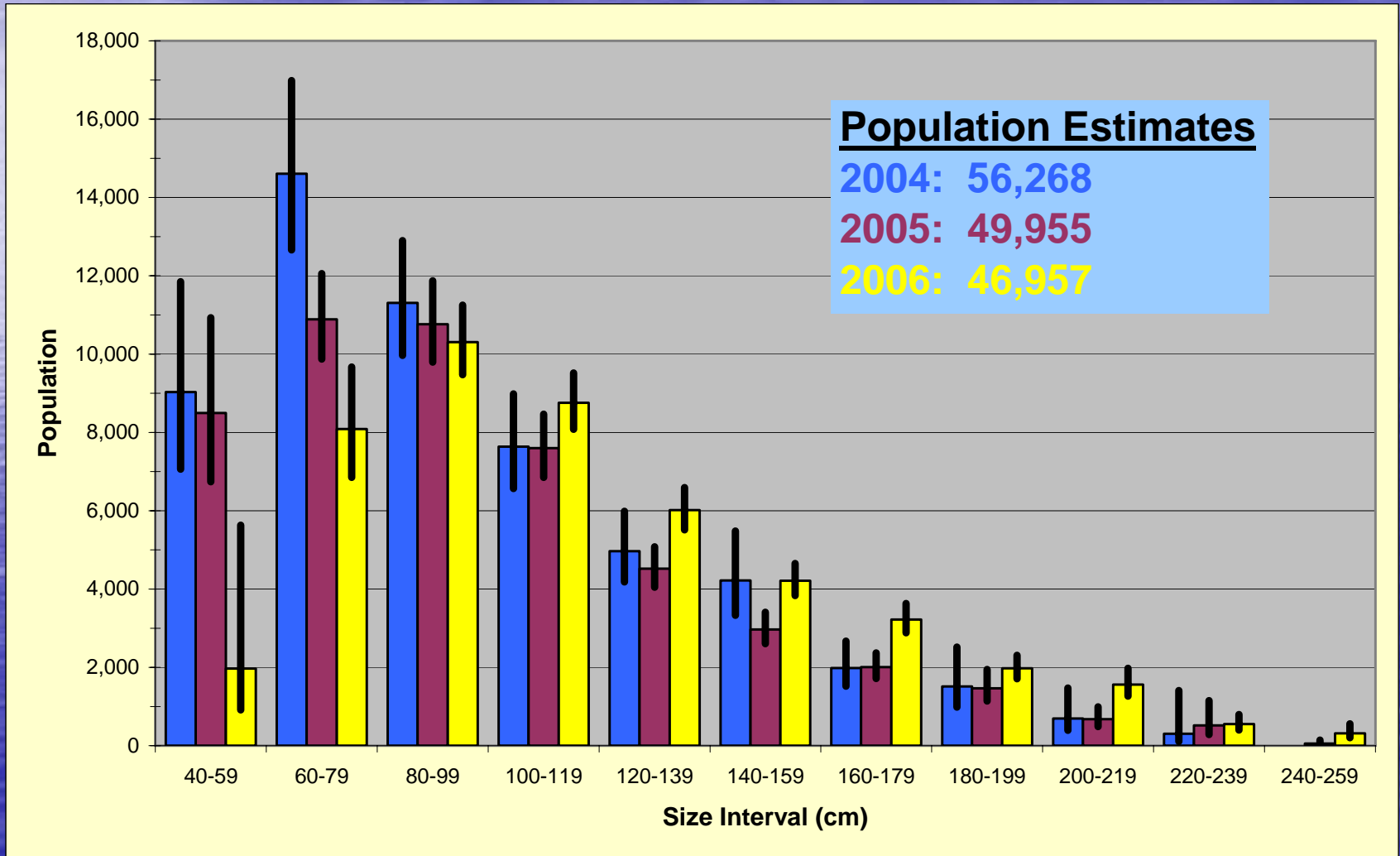


Fraser River Sturgeon Conservation Society Monitoring and Assessment Program 1999-2006

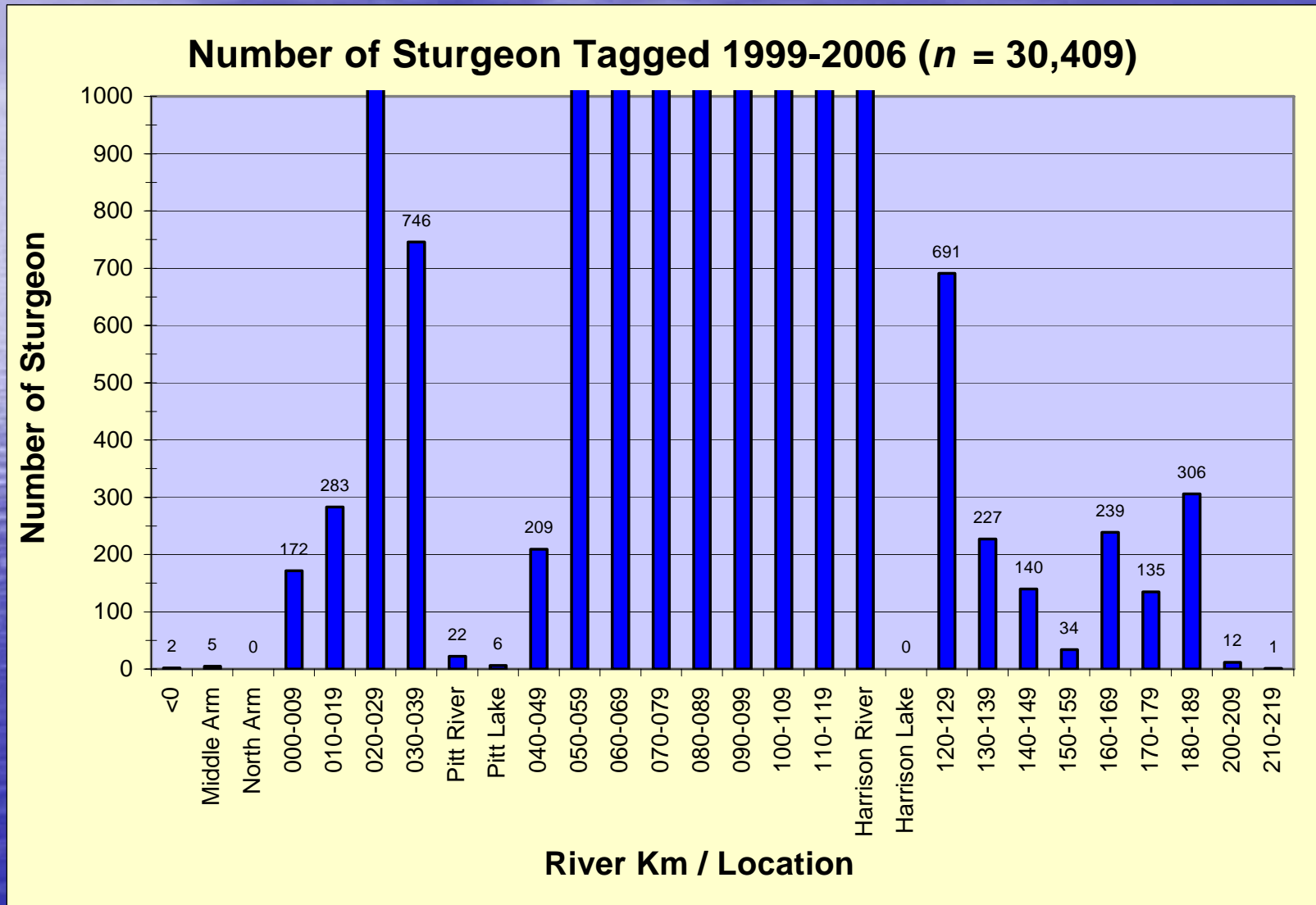
**Lower Fraser River White Sturgeon
Population Estimates (40-260* cm Fork Length)
October 1999 - January 2006**



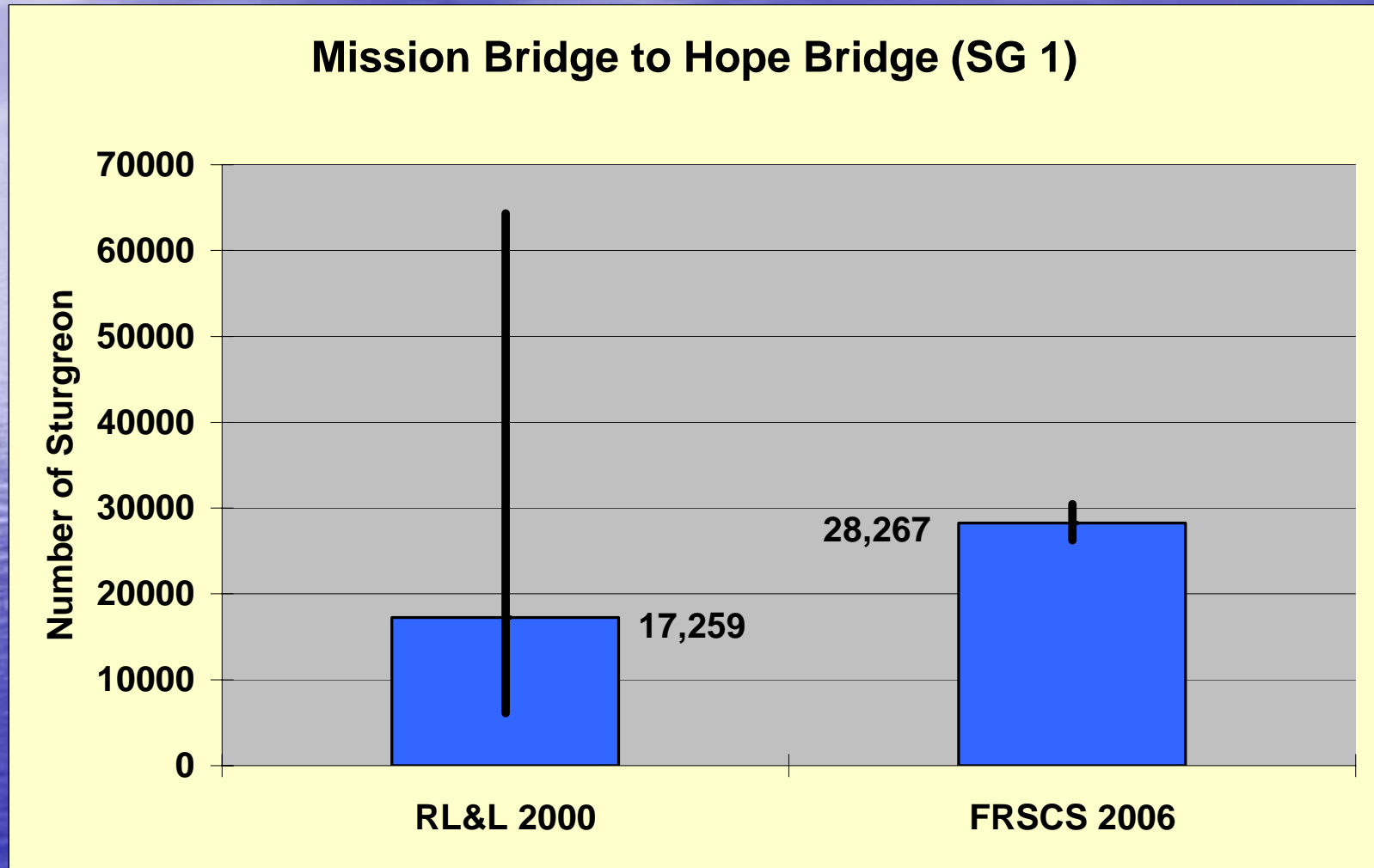
Fraser River Sturgeon Conservation Society Monitoring and Assessment Program 2004, 2005, 2006



Fraser River Sturgeon Conservation Society Monitoring and Assessment Program 1999-2006

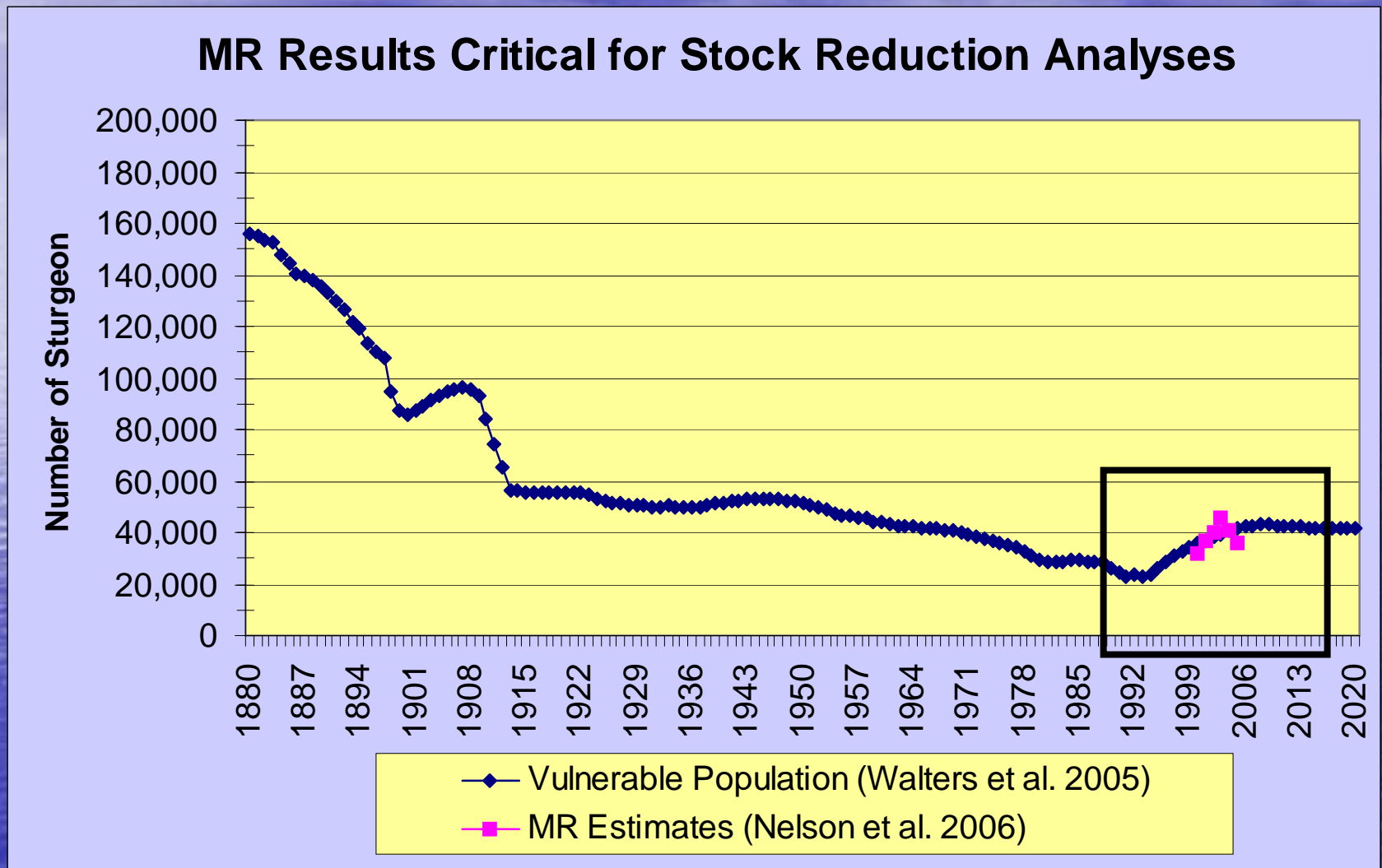


Fraser River Sturgeon Conservation Society Monitoring and Assessment Program 1999-2006



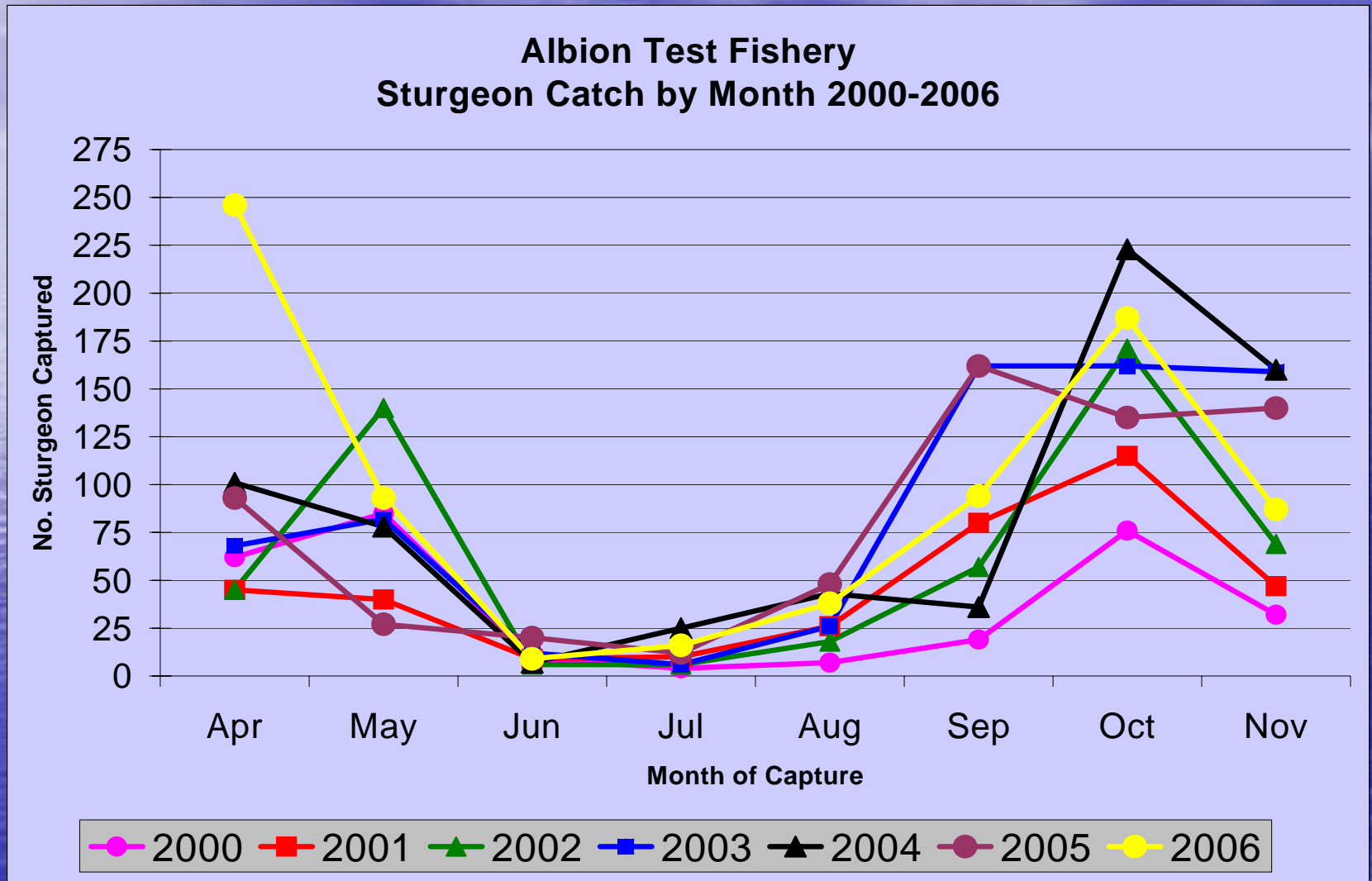
Large samples of tag releases and recaptures provide precise estimates

Historical Perspective on Population Trends



MR estimates provide critical anchor point

Albion Test Fishery Sturgeon Catch 2000–2006

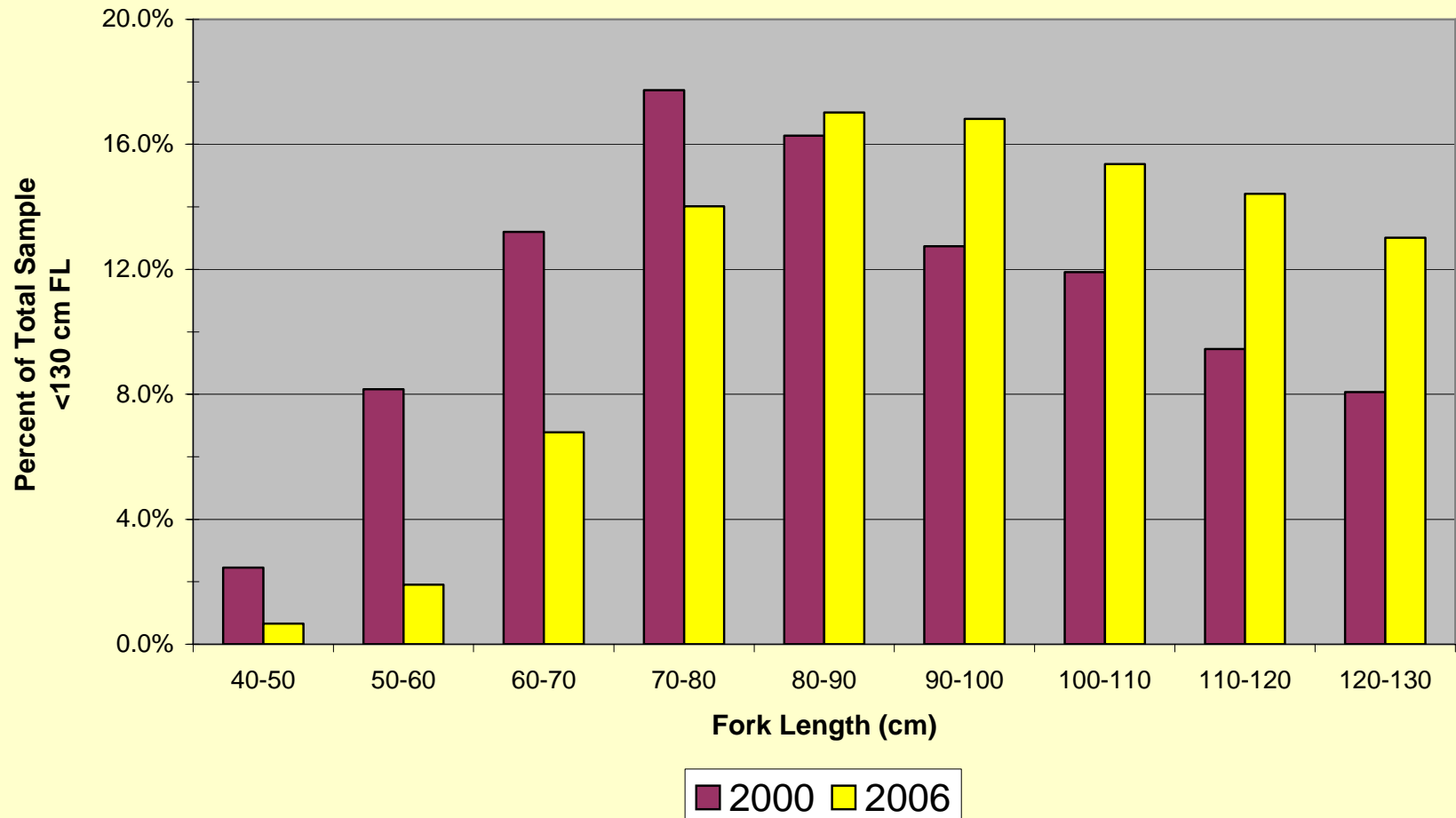


Inter- and intra-annual migration/movement patterns

Trends in Juvenile Sturgeon Abundance

Comparison of angled samples (2000 vs. 2006)

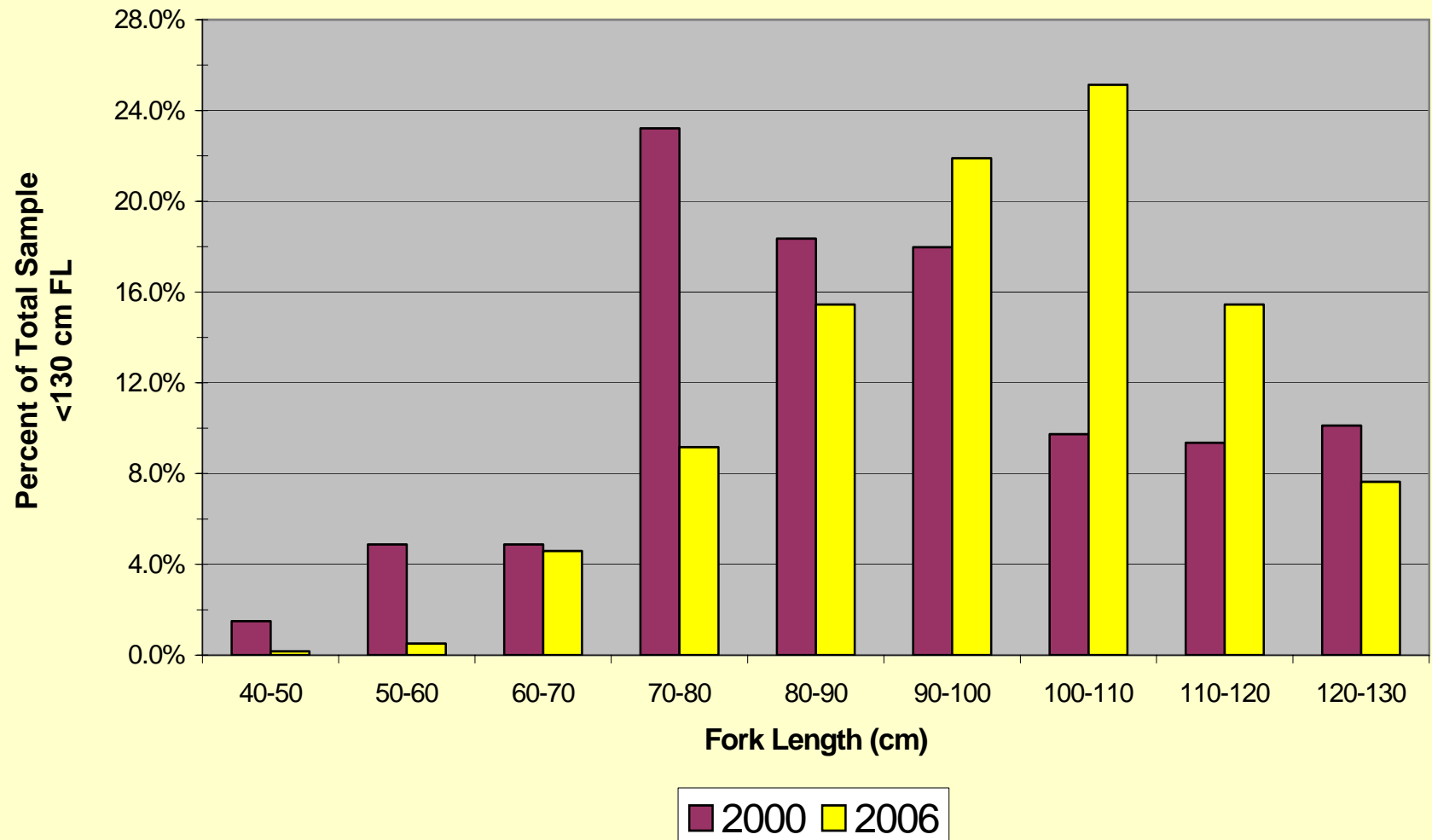
Percent of Angled Sturgeon Sample <130 cm Fork Length
2000 ($n = 2042$) vs 2006 ($n = 4835$)



Trends in Juvenile Sturgeon Abundance

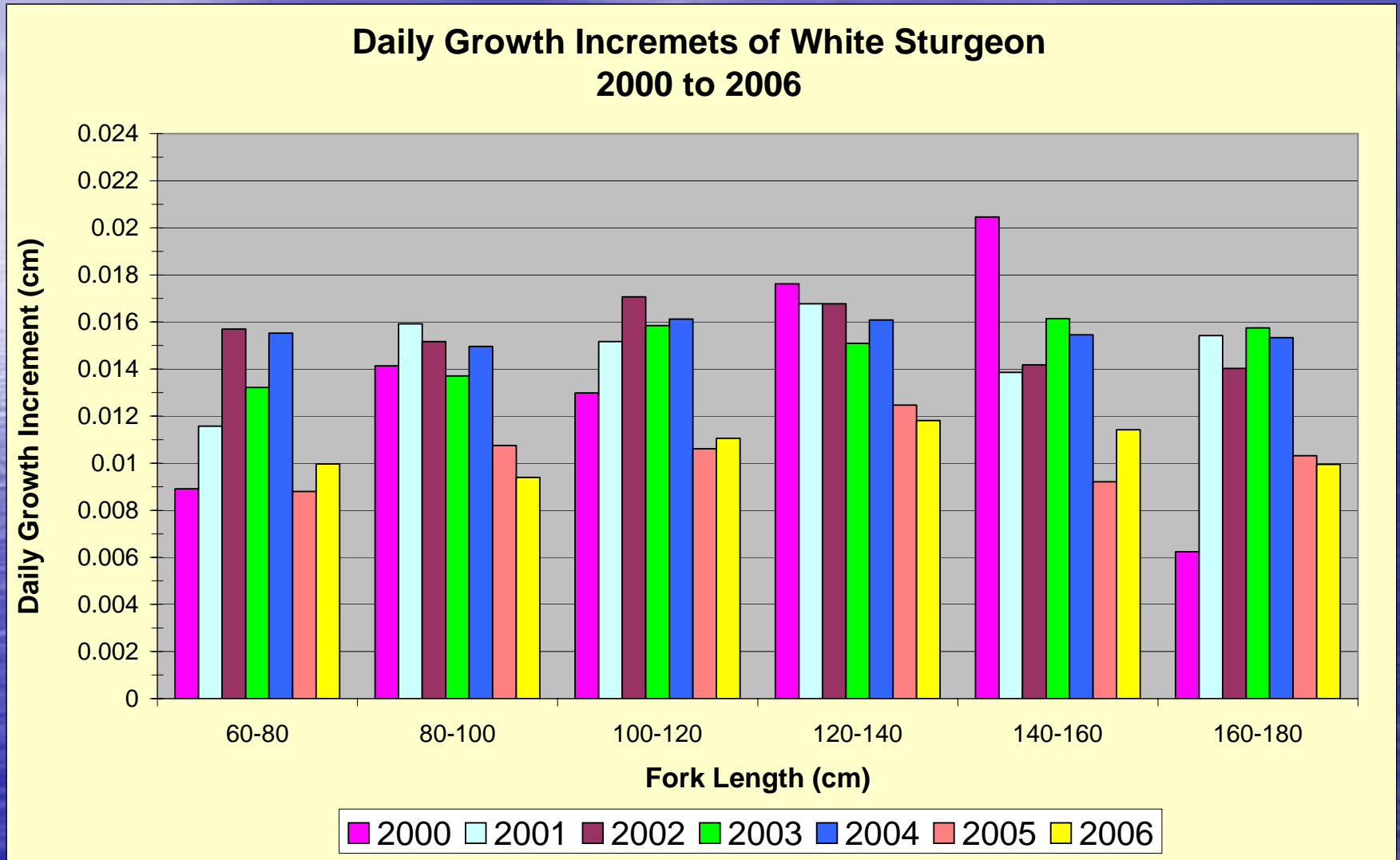
Comparison of samples from Albion Test Fishery (2000 vs. 2006)

**Percent of Albion Sturgeon Sample <130 cm Fork Length
2000 ($n = 267$) vs 2006 ($n = 589$)**

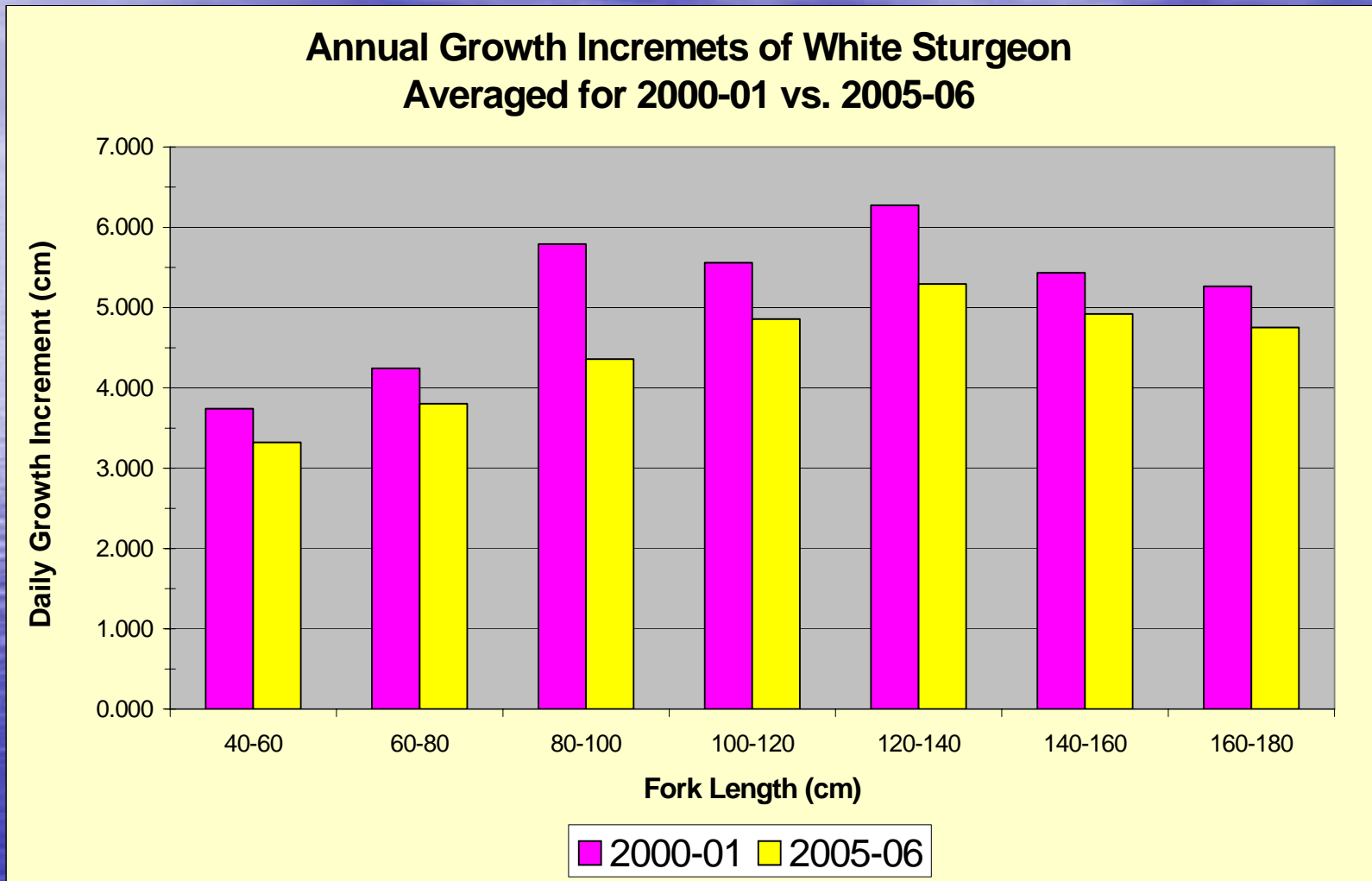


Growth Analyses

Daily growth increment, based on recaptures of tagged sturgeon



Annual Growth Trends



19-38% reduction in annual growth rate

FRASER RIVER STURGEON CONSERVATION SOCIETY

Lower Fraser River First Nations Sturgeon Stewardship Program



Ralph Roberts

First Nations Program Coordinator
Fraser River Sturgeon Conservation Society



Lower Fraser River First Nations Sturgeon Stewardship Program

Education and Awareness Program



- Meetings and Workshops
- Presentations at Band level

Lower Fraser River First Nations Sturgeon Stewardship Program

On-Water Training

- Revival and release techniques
- Sturgeon avoidance



- Catch monitoring
- Sturgeon sampling for core monitoring and assessment program

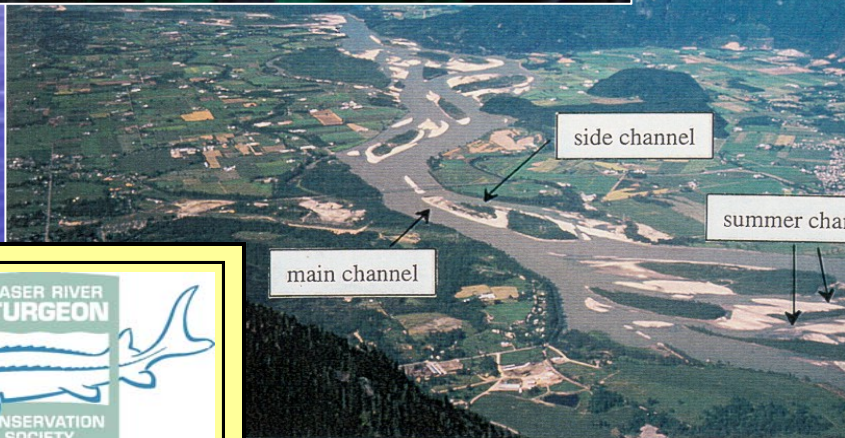
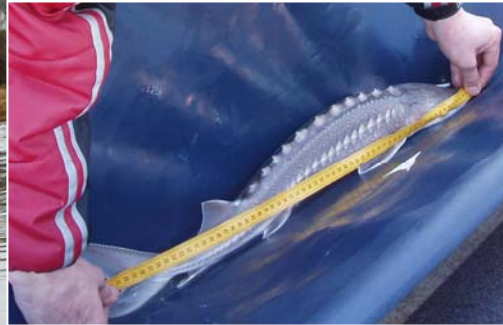
Fraser River White Sturgeon First Nation Stewardship Program

- * A FRSCS Initiative
- * Federal (HSP) and provincial (MOE) support
- * Resource Conservation at the Community Level
- * Evidence of successful delivery and results

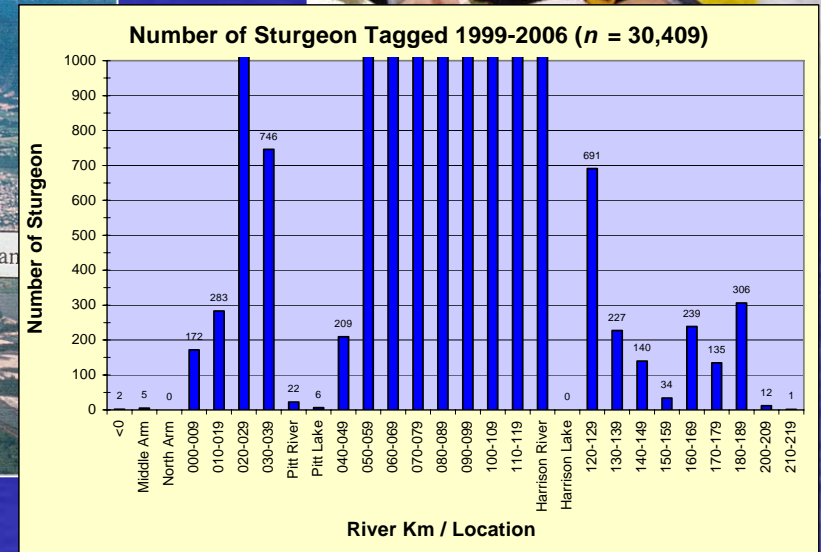


Fraser River Sturgeon Conservation Society Program Priorities 2007-08

Rick Hansen



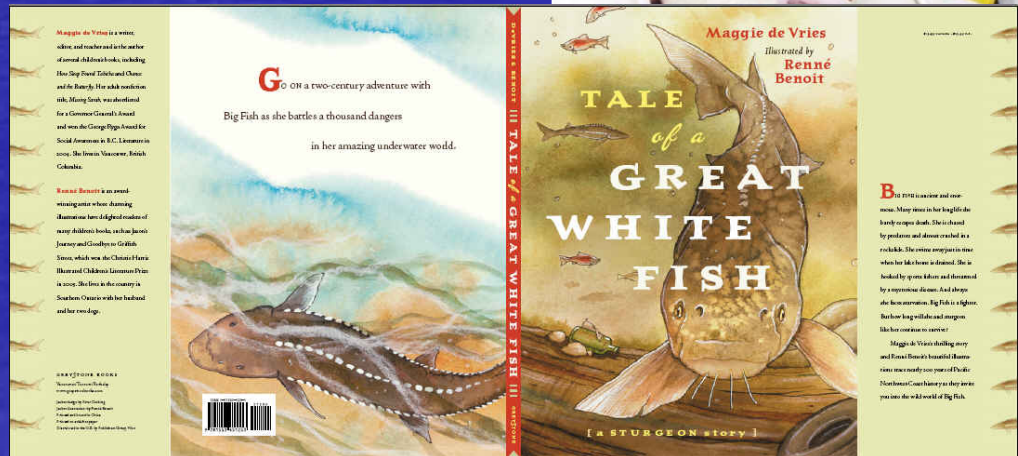
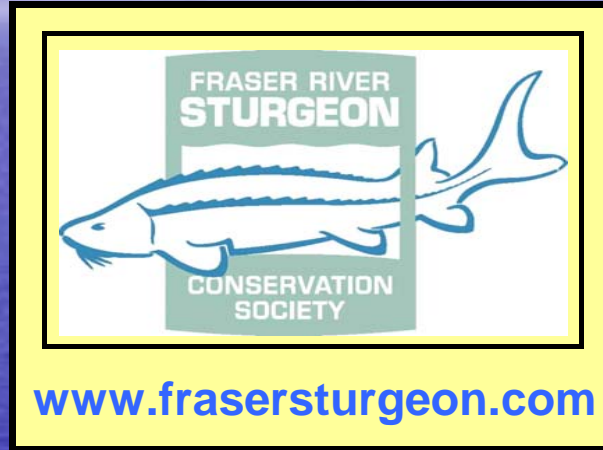
www.frasersturgeon.com



Fraser River Sturgeon Conservation Society

Priority Projects 2007-08

HSBC Fraser River Sturgeon Education Program



HSBC Fraser River Sturgeon Education Program



- Targets grades 4-5
- 7 Lesson plans and teacher support
- English and French text
- BC's Lower Mainland/Fraser Basin public schools
- First Nations schools, private schools
- Lesson Plans on FRSCS web site



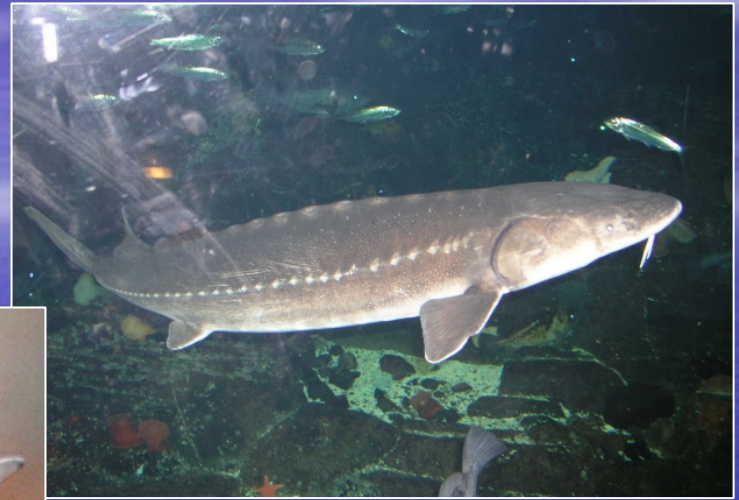
PROJECT GOALS

2007: 140 classrooms, 4200 students

2008: 200 classrooms, 6000 students

HSBC Fraser River Sturgeon Education Program

Partners in Fraser sturgeon education



Vancouver Aquarium



Fraser River Discovery Centre



Inch Creek Hatchery

Tale of a Great White Fish

Story of the ecology and culture of the lower Fraser River through the life and experiences of a Fraser River white sturgeon

Maggie de Vries is a writer, editor, and teacher and is the author of several children's books, including *How Slow Forest, Techie and Charis and the Bunchy*. Her adult non-fiction title, *Missing Sarah*, was shortlisted for a Governor General's Award and won the George Peigo Award for Social Awareness in B.C. Literature in 2004. She lives in Vancouver, British Columbia.

Renné Benoit is an award-winning artist whose charming illustrations have delighted readers of many children's books, such as *Jacob's Journey* and *Goodbye to Grifith Street*, which won the Christie Harris Illustrated Children's Literature Prize in 2009. She lives in the country in Southern Ontario with her husband and her two dogs.

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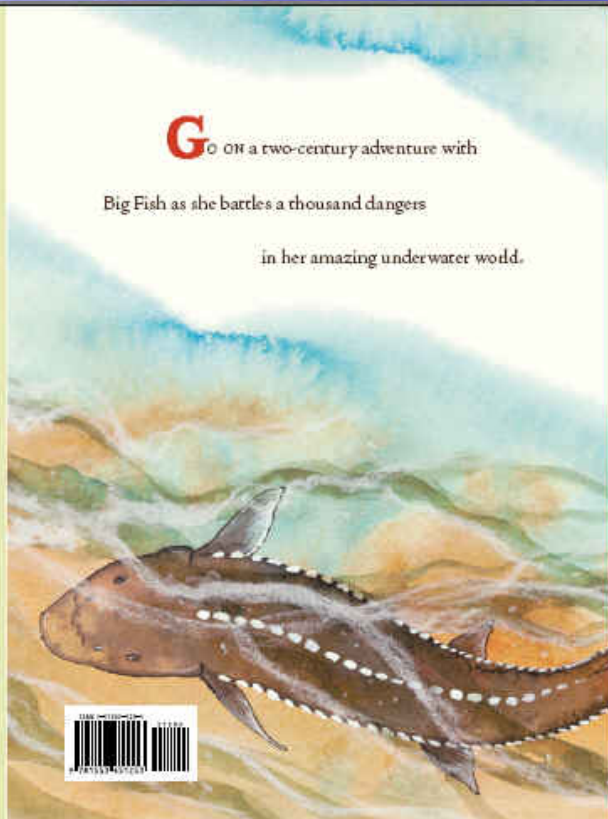
Jackets designed by Steve Goring
Jackets illustrated by Renne Benoit
Printed and bound in China
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Stone Books is an imprint of Children's Group, Inc.



GON a two-century adventure with

Big Fish as she battles a thousand dangers

in her amazing underwater world.



DE VRIES'S REPORT ||| TALE OF A GREAT WHITE FISH ||| BENOIT'S

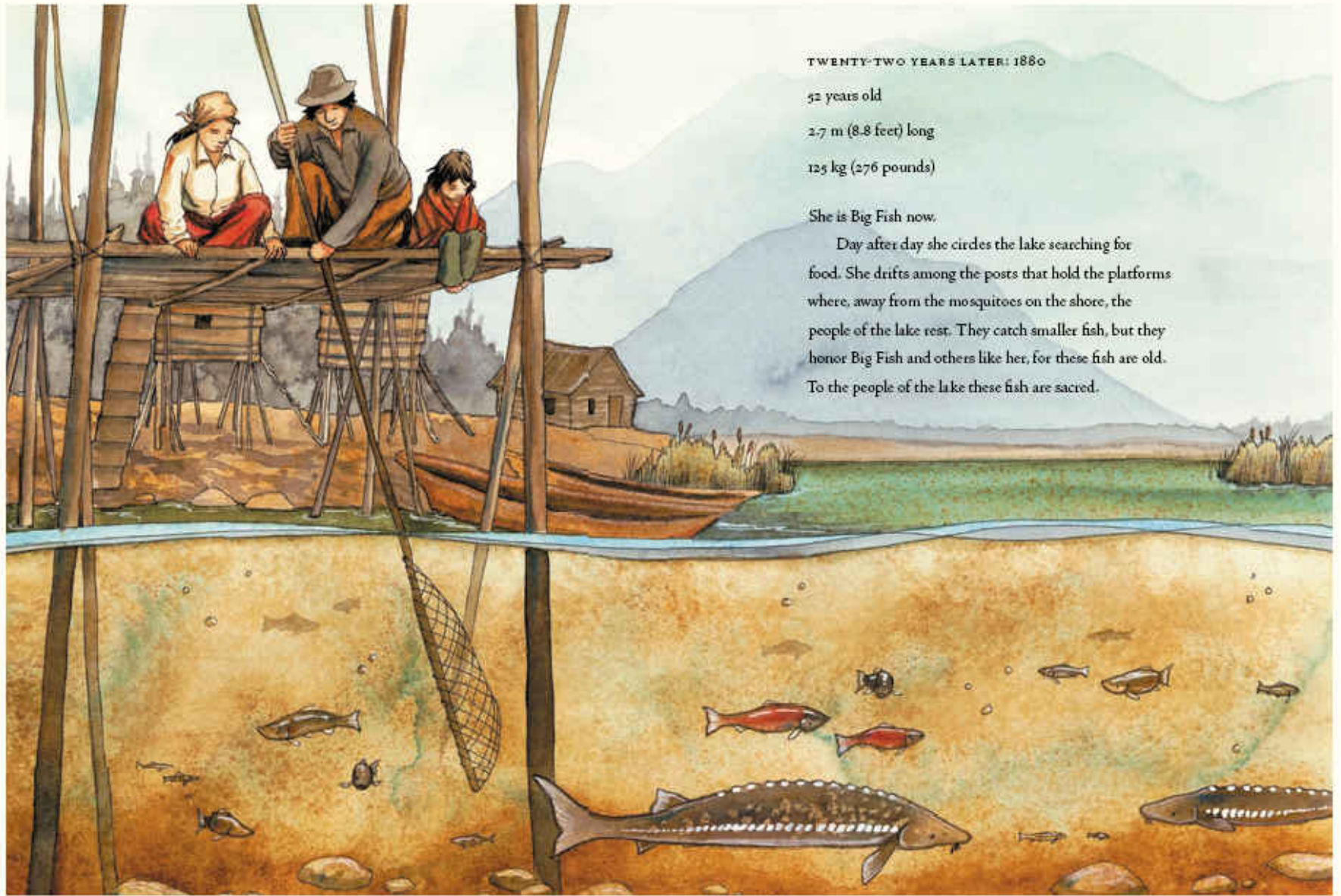
Maggie de Vries
Illustrated by
Renné Benoit

TALE
of a
GREAT
WHITE
FISH

[a STURGEON story]

BIG FISH is ancient and enormous. Many times in her long life she barely escapes death. She is chased by predators and almost crushed in a rockslide. She swims away just in time when her lake home is drained. She is hooked by sports fishermen and threatened by a mysterious disease. And always she faces starvation. Big Fish is a fighter. But how long will she and sturgeon like her continue to survive?

Maggie de Vries's thrilling story and Renne Benoit's beautiful illustrations trace nearly 200 years of Pacific Northwest Coast history as they invite you into the wild world of Big Fish.



TWENTY-TWO YEARS LATER: 1880

52 years old

2.7 m (8.8 feet) long

125 kg (276 pounds)

She is Big Fish now.

Day after day she circles the lake searching for food. She drifts among the posts that hold the platforms where, away from the mosquitoes on the shore, the people of the lake rest. They catch smaller fish, but they honor Big Fish and others like her, for these fish are old. To the people of the lake these fish are sacred.



TWELVE YEARS LATER: 2005

177 years old

6.1 m (20 feet) long

770 kg (1,698 pounds)

One day, Big Fish is hooked again, but this time she cannot free herself.

The fishers tow her to shore, and a man and a woman jump into the water. But they do not tie a rope around Big Fish. These fishers are studying the sturgeon in the Fraser River. They are trying to help them survive. They measure Big Fish and stick a small glass capsule behind the hard plate in her head. It carries a code to identify her. The man and the woman release Big Fish back into the river.

"There she goes," says the captain. He smiles as he remembers the jumping fish he saw so long ago.



Fraser River Sturgeon Conservation Society
Priority Projects 2007-08

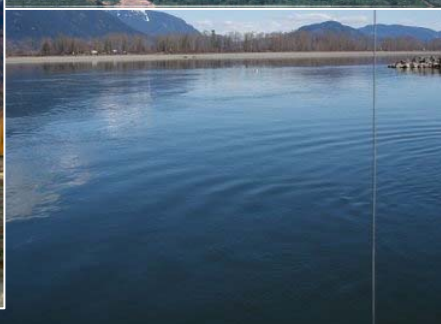
**Lower Fraser River Juvenile White Sturgeon Assessments:
Inventories of Abundance and Habitat**



Fraser River Sturgeon Conservation Society

Priority Projects 2007-08

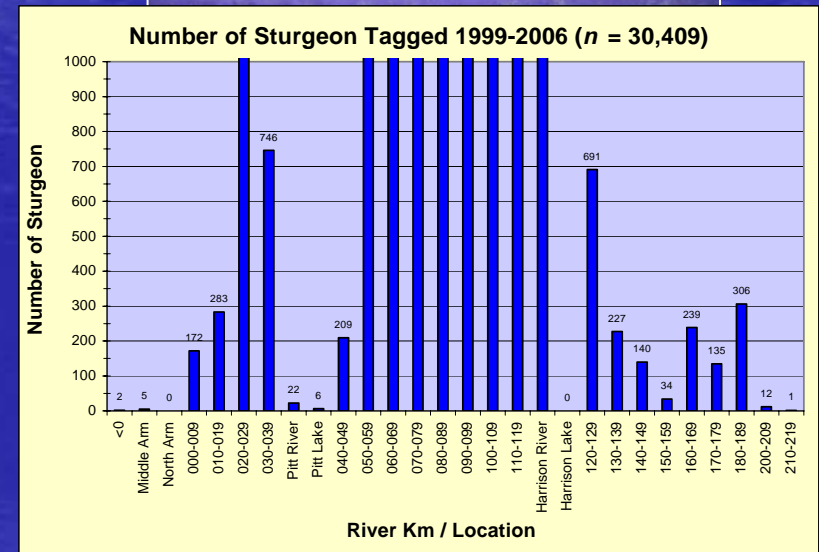
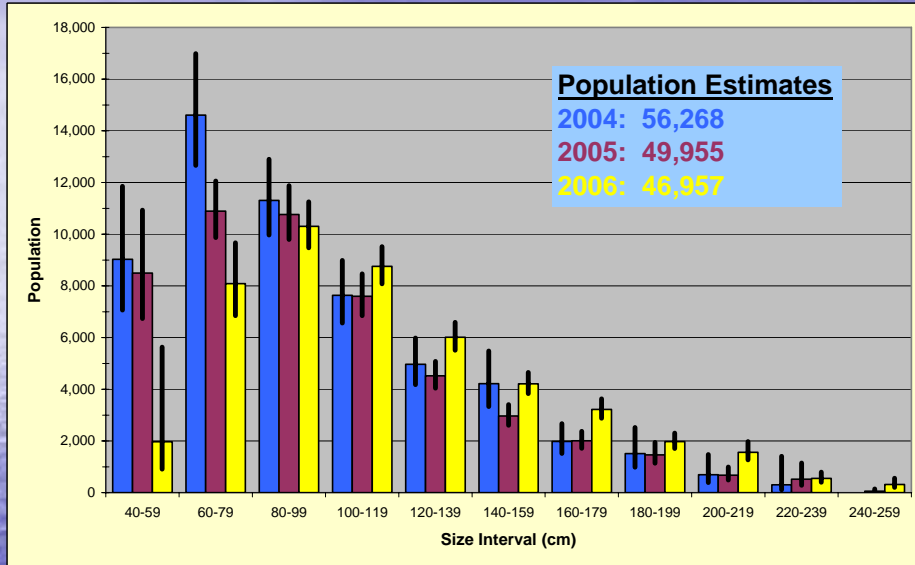
Lower Fraser River Sturgeon Habitat: Comprehensive Assessment, Identification, and Documentation



Fraser River Sturgeon Conservation Society

Priority Projects 2007-08

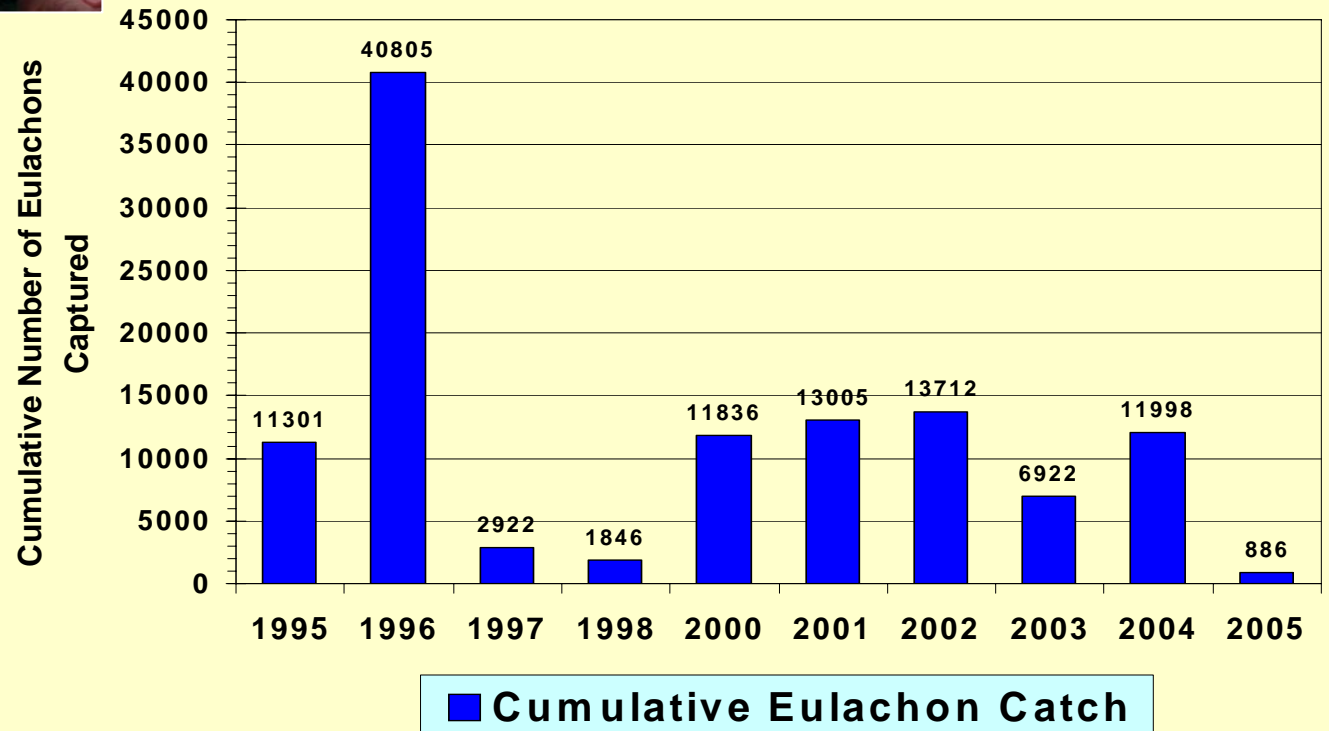
Lower Fraser River White Sturgeon Monitoring and Assessment Program



CHALLENGES: Pacific Eulachon - Fraser River Stock Declines



**Total Cumulative Eulachon Catch from
Fraser River Test Fishery (Annieville Channel)
1995-2005
(TOTAL SEASON - 01 April through 07 May)**



CHALLENGES:

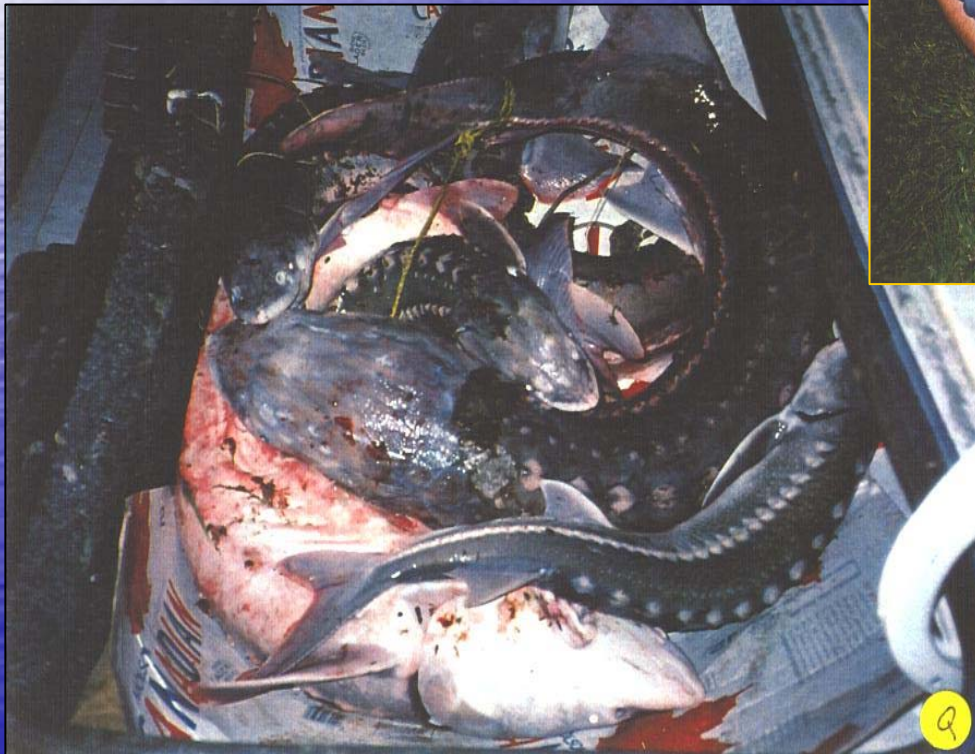
Cyclic Salmonid Abundance – Fraser River Watershed



**Salmonid escapement and stock diversity =
healthy Fraser ecosystem (good for sturgeon!)**

CHALLENGES: Sturgeon Enforcement

- Poaching
- Illegal retention



- Illegal transport
- Illegal sale

CHALLENGES: Habitat/Ecosystem Conservation and Protection



FRASER RIVER WHITE STURGEON

Now and Forever

