

# NISGA'A FISHERIES PROGRAM 2012

## The Nisga'a Approach to Salmon Management



**Nisga'a Fisheries and Wildlife Consultation Meeting**  
**8 April 2013**  
*Healthy Stocks and Sustainable Fisheries !*



A man with grey hair, wearing a red life vest and yellow gloves, is holding a large salmon on a boat. The background shows a body of water and trees. A blue semi-transparent box is overlaid on the image, containing text.

## **THIS PRESENTATION**

- **REVIEW OF NISGA'A FISHERIES PROGRAM 2012**
- **STATUS OF NASS SALMON STOCKS 2012**
- **FORECASTS FOR 2013 & PROJECTED NISGA'A ENTITLEMENTS**
- **SUMMARY OF 2012 HIGHLIGHTS**
- **CONCERNS AND PRIORITIES FOR 2013 AND IN THE FUTURE**
- **STATUS OF FUNDING TO THE NISGA'A FISHERIES PROGRAM & PROJECTED FOR 2013**



# Nisga'a Fisheries Program 1992-2012

## Celebrating 21 years of success!



**Dedication**



**Hands on Stock Assessment**



**Team Work**



**Leadership**

# NISGA'A FISHERIES & WILDLIFE STAFF 2012



The 2012 program involved up to 7 biologists and 29 technicians at various times over the year while conducting 23 projects. Of the 36 staff, 12 have been with program for over 15 years; 5 over 20 years; and 8 were new recruits to the program.



# ACKNOWLEDGEMENTS OF STAFF FROM 2012

## **Management & Technical advisors**

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## **Lower Nass Coho Studies**

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## **Sockeye Studies**

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Ben Gonu Jr (#3)  
Casey Braam (Meziadin)

## **Kwinageese Weir**

April Angus  
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Ben Gonu Jr (#3)  
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Ben Gonu Sr.  
Barry Stevens

## **Marine Patrol, Biotoxin and Crab Studies**

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Philip Azak  
Max Lincoln

## **Wildlife**

Nicole Morven



# CORE PROGRAM PRIORITY ACTIVITIES

1. Monitoring of Nass salmon and Steelhead escapement
2. Monitoring of harvests in Nisga'a fisheries
3. Determination of factors limiting the production of Nass salmon and non-salmon species
4. Nisga'a capacity building (training)

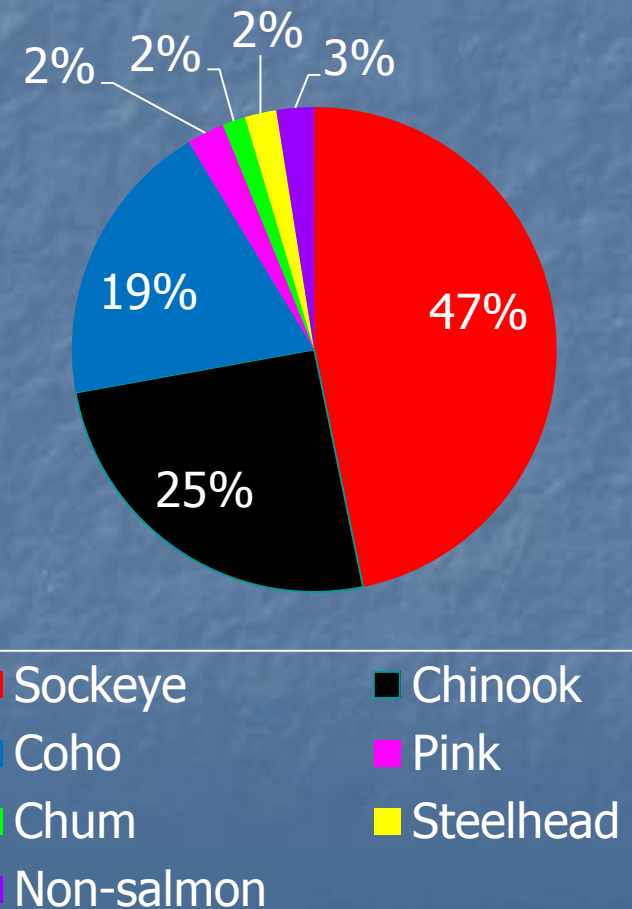




# FUNDING BREAKOUT OF CORE FUNDING TO NISGA'A FISHERIES PROGRAM AS APPROVED BY JFMC (Nisga'a-Canada-BC) - \$1.3 MILLION

- ✓ 55% of core funds to escapement/conservation programs for Nass salmon and steelhead stocks
- ✓ 20% of core funds to management infrastructure, buildings and capital equipment for administering the NFP
- ✓ 16% of core funds to monitoring salmon and non-salmon catch including eulachon in both Nisga'a and in-river recreational fisheries
- ✓ 7% of core funds for research for conservation programs (e.g., DFO's wild salmon policy, MSC certification)
- ✓ 2% of core funds for safety training for Nisga'a staff in NFP (e.g., Swift water rescue, First Aid, Boat safety, Bear safety, etc.)

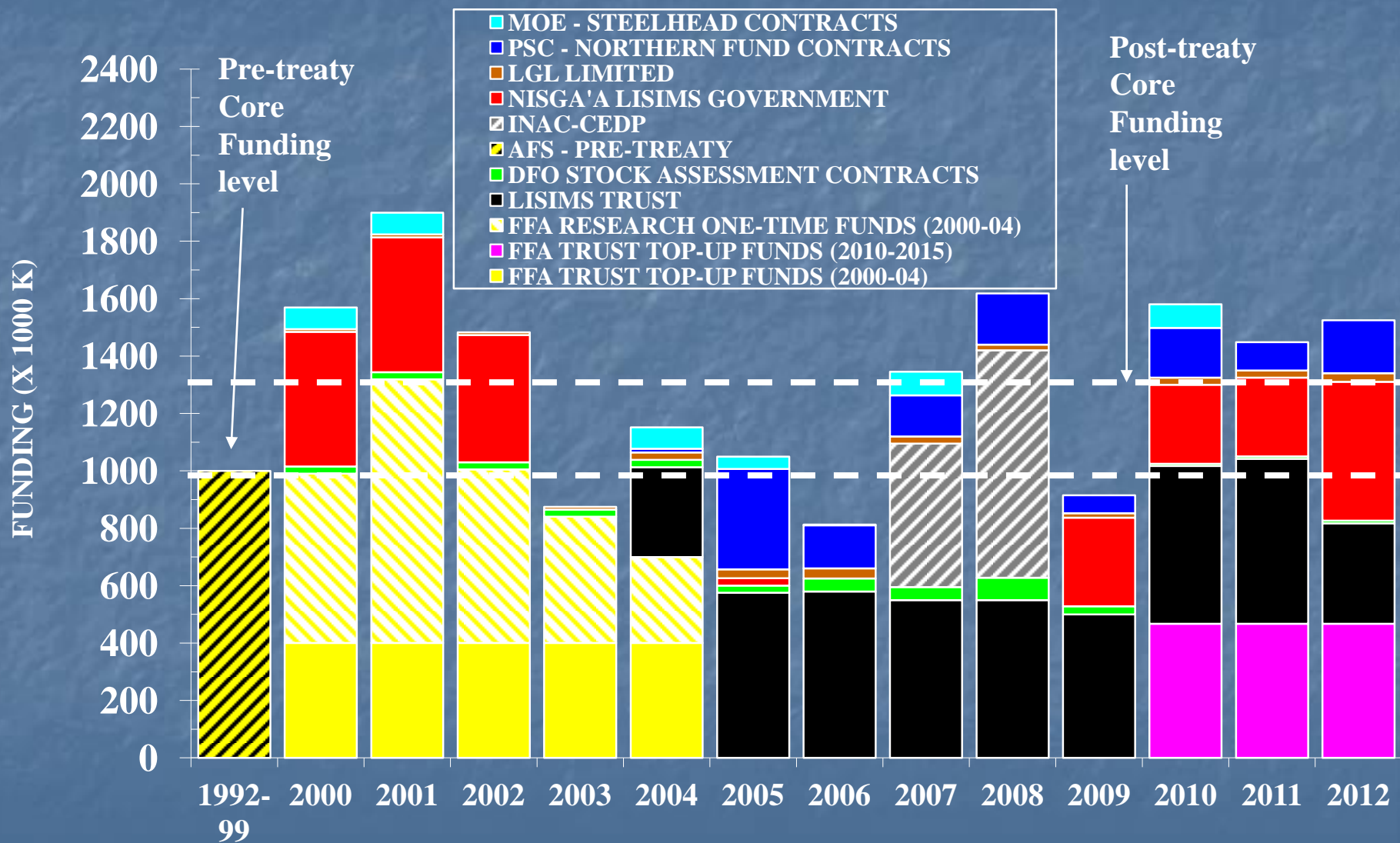
2010 FFA negotiated funding breakout by species





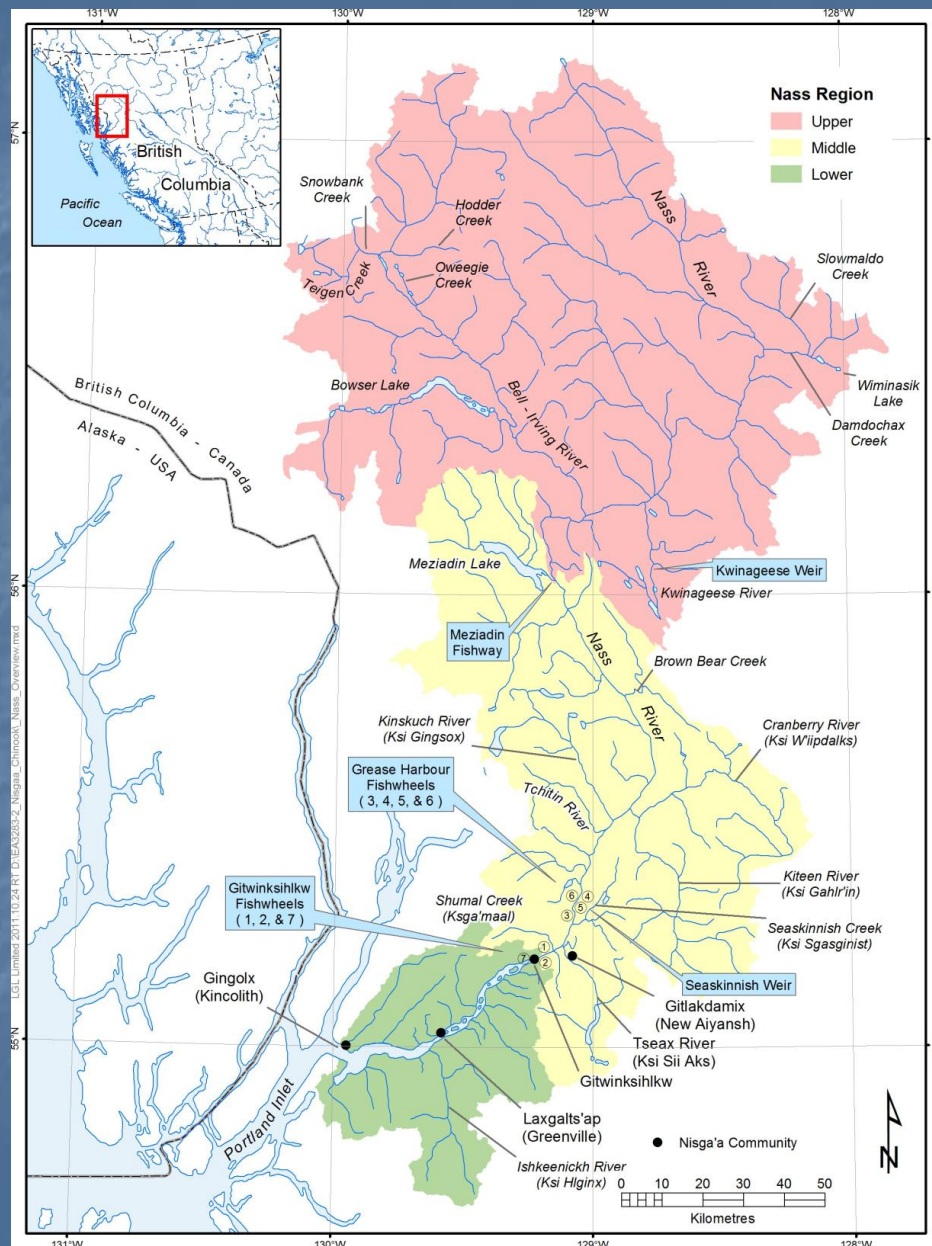
# Funding Levels for Nisga'a Fisheries Program

## CORE management activities, 2000-2012





# 23 Project activities – 2012



## Assessment Programs:

1. Fishwheel Program (plus fishwheel capital replacement)
2. Meziadin Program
3. Upper Nass Chinook Escapement Surveys - Damdochax
4. Upper Nass Chinook Sentinel Program – Kwinageese Weir & Escapement monitoring
5. Gingit and Upper Nass Sockeye Escapement (AUC) Surveys
6. Kwinageese River Sockeye Enumeration
7. Lower Nass Coho Escapement (AUC) Surveys
8. Lower Nass Chum /Pink Escapement Surveys
9. Wild coho indicator stock program – Zolzap CWT & fence
10. Coastal Coho Portland Canal Surveys
11. Nass Eulachon Assessment 2012
12. Steelhead, Trout, and Char assessment
13. Zolzap lamprey collections

## Catch Monitoring:

1. Nisga'a Salmon Catch Monitoring program (May-Aug)
2. Sale Fishery Marine Patrols (June-Aug)
3. IS Permit sales & regulations (Jun-Aug)
4. Recreational Catch Monitoring – Kincolith and Tseax (July-Sep)
5. Nisga'a Eulachon Catch Monitoring Program (Feb-Mar)
6. Nisga'a non-salmon monitoring program (Apr-Mar)

## Training:

1. Swift Water Rescue (May – 2 trained)

## Habitat & Other programs:

1. Biototoxicity Program (DFO Funded) – Aug-Mar
2. Food fish and IS sale permitting (June-Aug)
3. Kwinageese Blockage Removal Project (PSC funded)

# **NISGA'A FISHERIES PROGRAM: MANAGEMENT/INFRASTRUCTURE**

## **Admin highlights for 2012**

- ✓ **Oversaw 23 project activities and 29 technicians**
- ✓ **Maintained 8 boats (2 marine and 6 in-river) and 4 trucks**
- ✓ **Maintained capital equipment: 2 adult fences, 1 juvenile fence, 6 fishwheels, 2 ATV units**
- ✓ **Several tours of the fisheries program activities were conducted with government and non-government agencies.**
- ✓ **Other Nass Area activities are also administered at times through the Nisga'a Fisheries & Wildlife Department.**





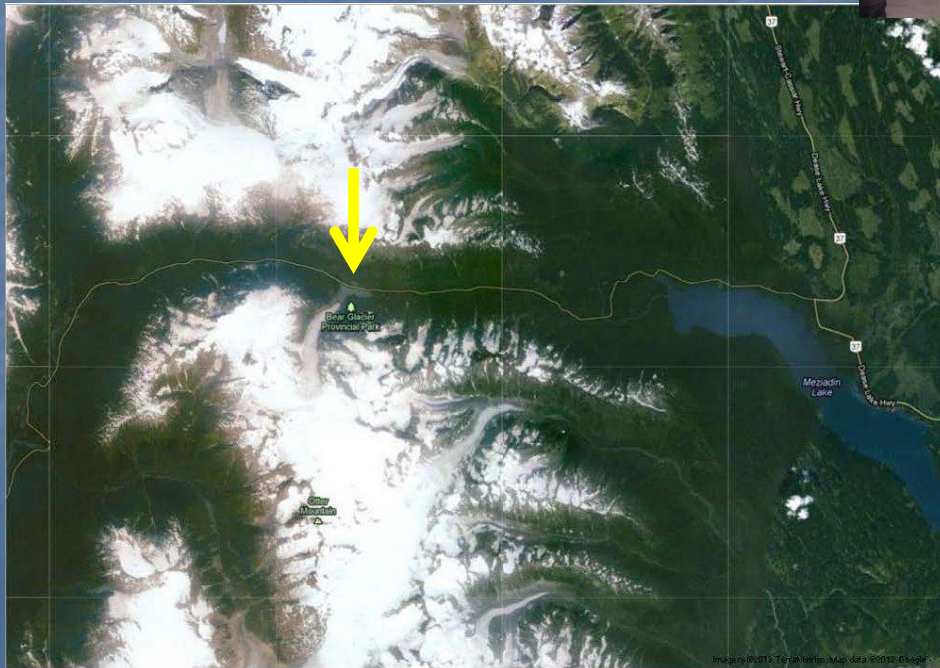
## **OTHER NASS WATERSHED ACTIVITIES:**

1. Northwest Transmission Line (NTL) & associated environmental assessments (six comp. projects proposed) – ongoing in full construction
2. Kitsault (Avanti) Mine – EA certification review in near future
3. Strohn Lake Zinc spill – cleaned up in Aug 2012
4. KSM Gold Mine studies – Bell-Irving – EA process continues
5. Independent Power Producers – numerous proposals (e.g., Kinskuch and White River)
6. Mine Explorations – 20 being reviewed



# Strohn Lake Zinc Spill

- Truck went into lake in November 2011
- Clean up occurred in August 2012



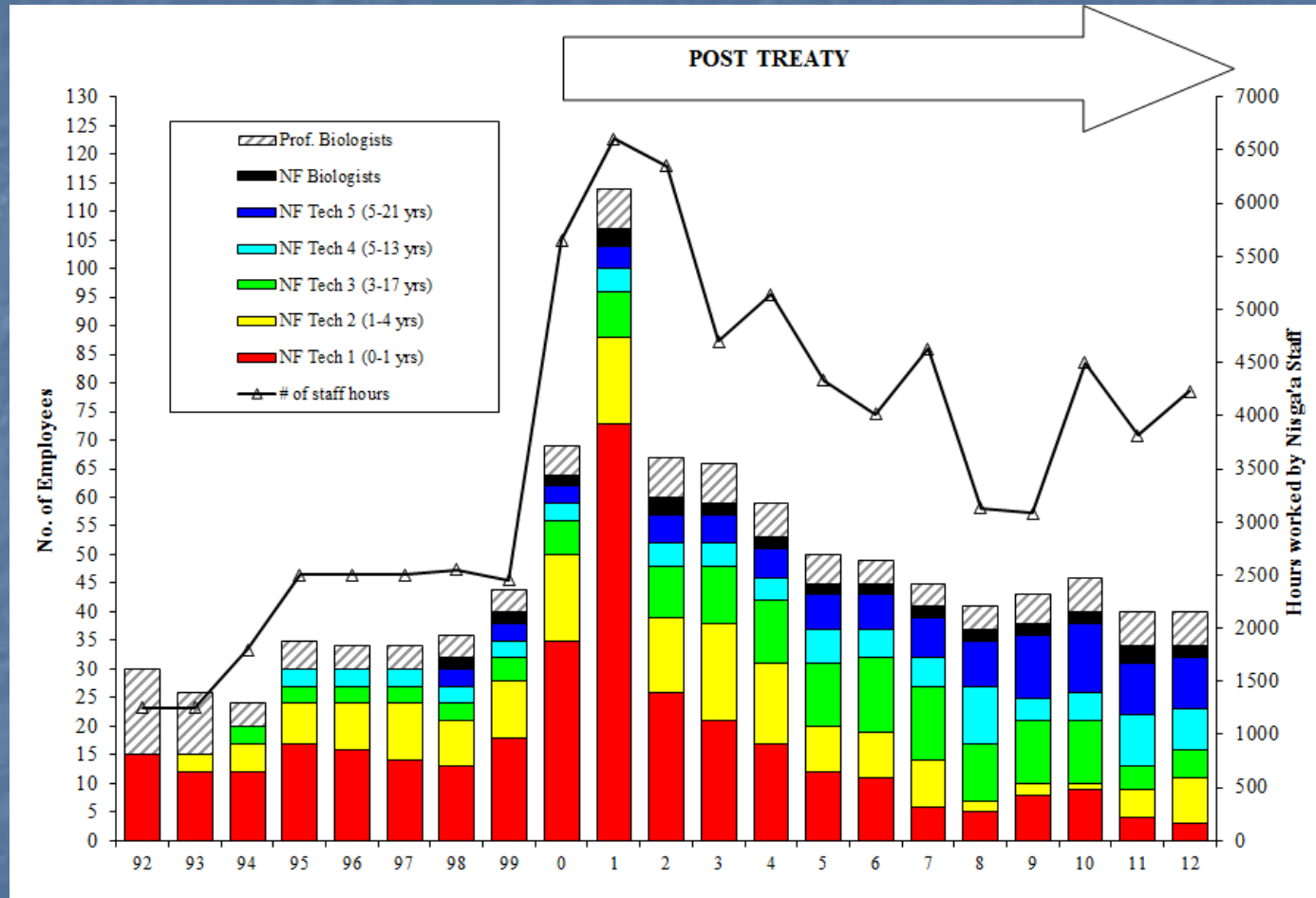


# **NISGA'A FISHERIES PROGRAM: 2012 TRAINING**

Each year, Nisga'a Fisheries and Wildlife staff are offered a variety of safety training in one or more courses including Swift Water Rescue, Boat safety, First Aid, Firearms, and Bear Awareness.

- ✓ **In 2012, 2 staff were trained in Swift Water Rescue, 2 staff obtained forklift certification, and 2 staff received First Aid, and WHMIS training. Tech 1 staff were also utilized on start up projects.**
- ✓ In addition to safety training, staff of Nisga'a Fisheries and Wildlife are technically trained each year by professional biologists in biological sampling, data collection, analyses and reporting techniques.

# Nisga'a Fisheries Program: Update On-the-Job Training & Technical Status



Currently maintaining technical capacity & succession building. In 2012, similar number of new job trainees (red and yellow bars). Senior capacity continues to be maintained.



## **NISGA'A FISHERIES PROGRAM: ESCAPEMENT/CONSERVATION PROGRAMS**

- The Nass fishwheel program provides accurate adult population estimates for Middle/Upper Nass Chinook, Sockeye, Coho, and Steelhead while providing index information for non-salmon adult species caught. The program also collects annual age and DNA information for Nass salmon stocks.
- Video-counting weirs and fishway counts provide stream specific escapement and tag recovery data for final population estimates – current programs are at Zolzap Creek, Meziadin and Kwinageese rivers.
- Stream surveys in the Nass watershed provide escapement and/or age/DNA information primarily for Sockeye (Gingit), Chinook (Mez., Kwin., and Damdochax), Coho (Ansedegan, Diskangieq, Zolzap), and Chum (Ksemamaith, Tseax).

**The following slides show photos from the operations and summary information for 2012.**



# NISGA'A FISHWHEEL PROGRAM



## GREASE HARBOUR FISHWHEELS (FW 3, 5, 6)

ADDITIONAL TAGGING,  
SAMPLING, TAG RECOVERY  
FOR IN-SEASON POPULATION  
ESTIMATES & SOME  
SELECTIVE HARVESTING



## GITWINKSIHLKW FISHWHEELS (FW 1 and 2)



TAGGING, POPULATION  
INDEX, & AGE/DNA  
ASSESSMENTS ONLY

✓ 5 Fishwheels operated in  
2012 ( 2 at GW and 3 at  
GH)

Image © 2009 TerraMetrics  
© 2009 Tele Atlas

55°15'21.86" N 129°09'01.37" W elev 0 m

©2009 Google

Eye alt 18.08 km



# Nass Fishwheel Salmon, Steelhead, Trout and Char Caught in Fishwheels



**CHINOOK**



**SOCKEYE**



**COHO**



**PINK**

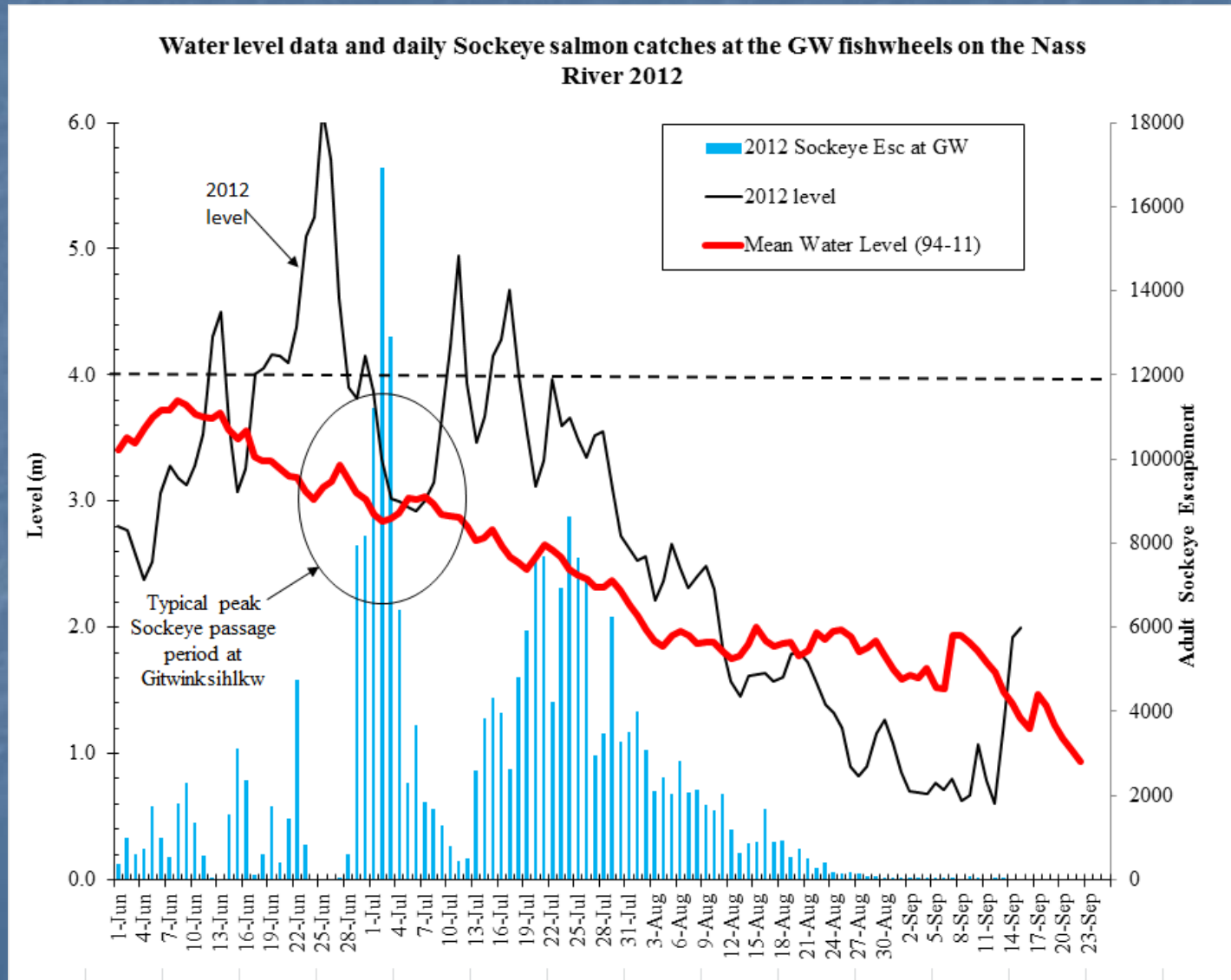


**CHUM**



**SUMMER-RUN STEELHEAD**

**Above average water levels in June and July created ideal catchability conditions for the fishwheels. High water in late June stacked fish with a large pulse on 2 July.**





# Nass Salmon, Steelhead and Trout catches in 2012

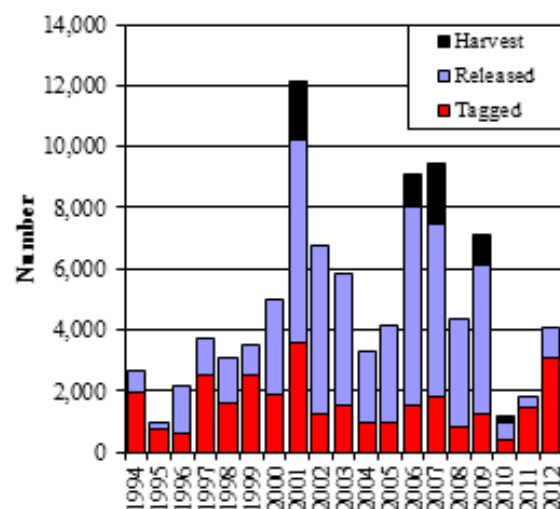
## 1 June – 15 September

Species (adults)	2012 Catch	Mean (94-11)	Min. catch	Max. Catch
Chinook	4,100	4,800	400	12,100
Sockeye	62,000	36,000	9,000	59,000
Coho	15,600	10,100	500	22,700
Pink	8,000	13,000	2,000	36,000
Chum	106	170	40	370
Steelhead	1,530	810	40	1,690
Cutthroat	59	70	10	160
Rainbow	45	50	0	160
Dolly Varden	420	370	40	1,190
Pacific Lamprey	670	390	50	1,130

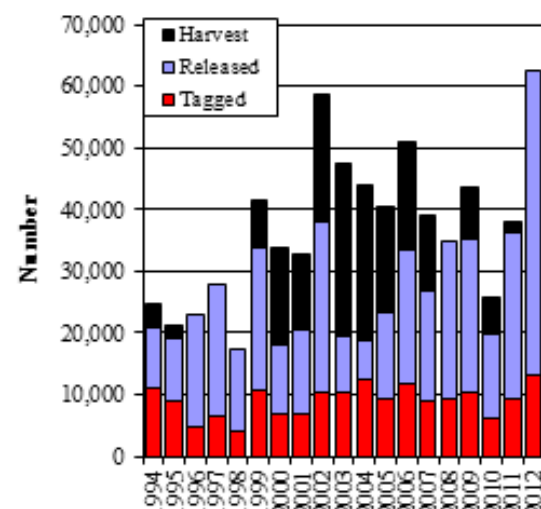
**2012 – Below average catches of Chinook, Pink, Chum and Cutthroat; average catches of Rainbow; above average catches of Sockeye, Coho, Steelhead, Lamprey and Dolly Varden.**

# NASS FISHWHEEL SALMON AND STEELHEAD CATCH CHARTS - 1994 TO 2012

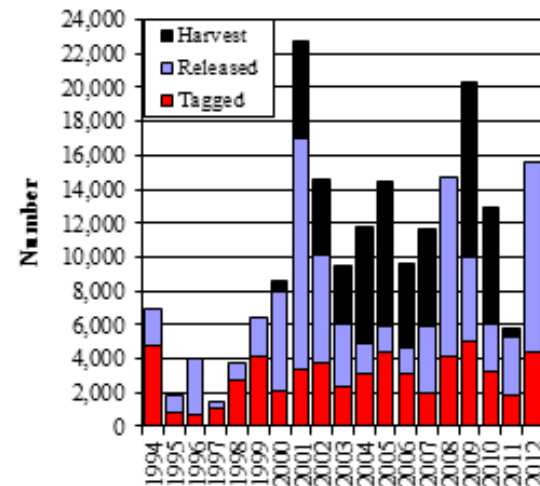
## Chinook FW Catch



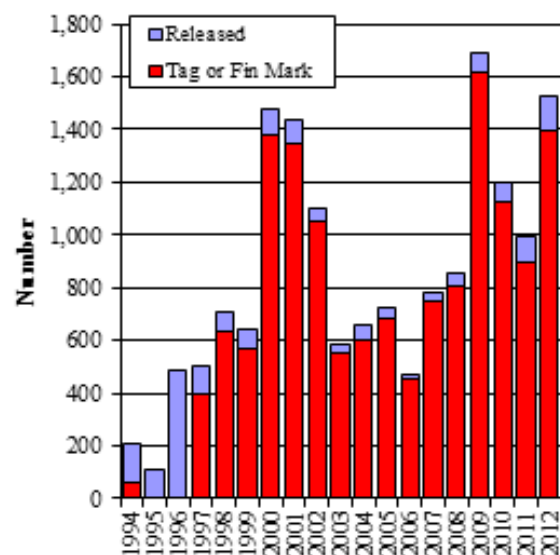
## Sockeye FW Catch



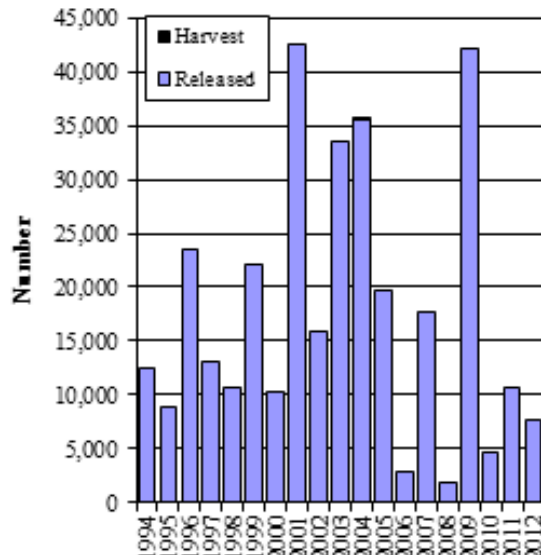
## Coho FW Catch



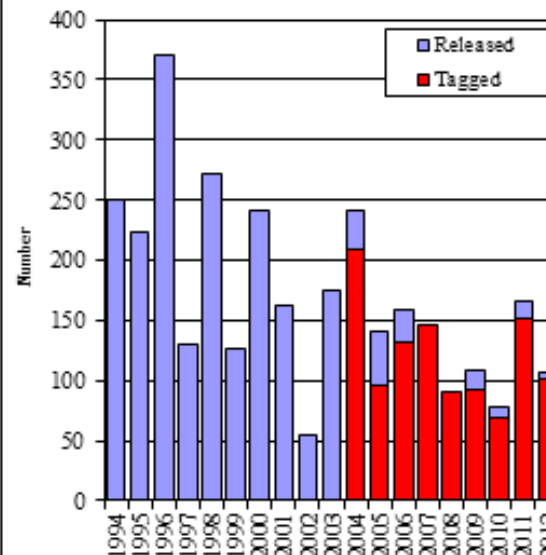
## Steelhead FW Catch



## Pink FW Catch



## Chum FW Catch

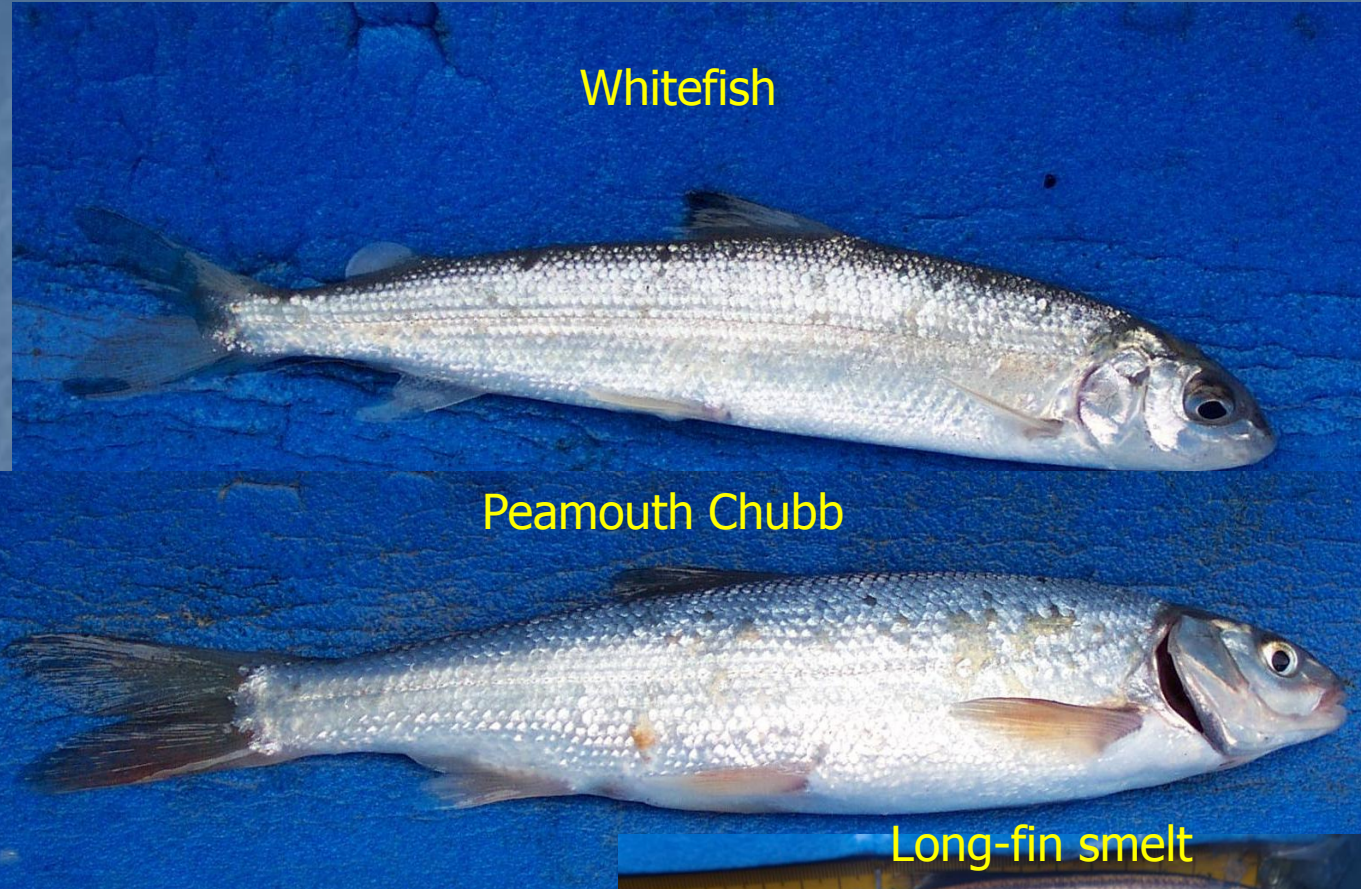




# Nass Fishwheel Non-Salmon Catch – Health index for Nass River



Pacific Lamprey



Whitefish



Peamouth Chubb



Long-fin smelt



Sucker



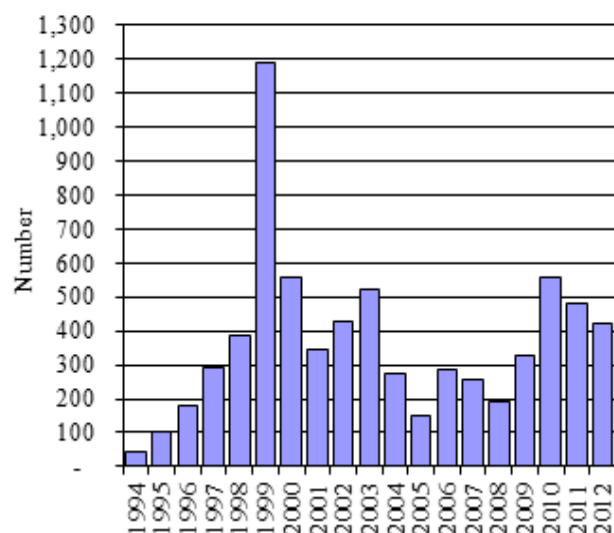
Sculpin



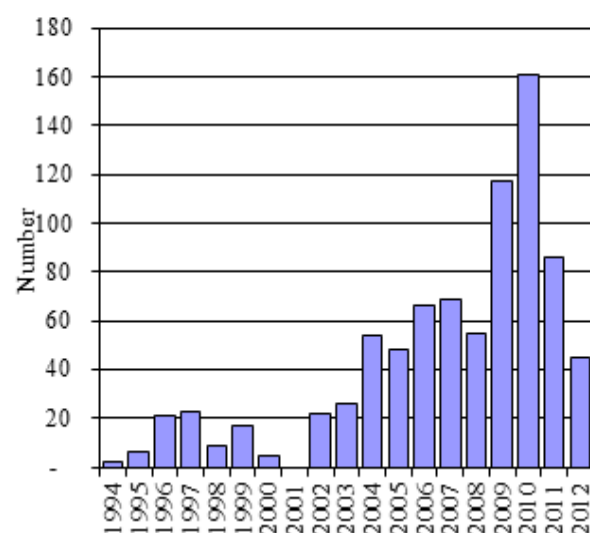
Red-side shiner

# NASS FISHWHEEL NON-SALMON CATCH CHARTS - 1994 TO 2012

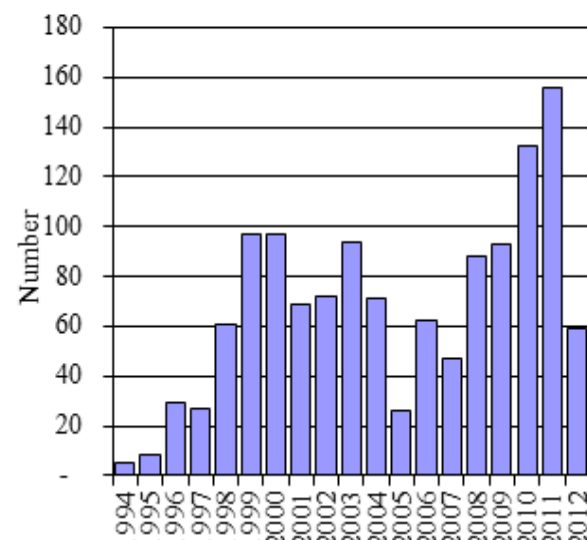
## Dolly FW Catch (>19 cm NFL)



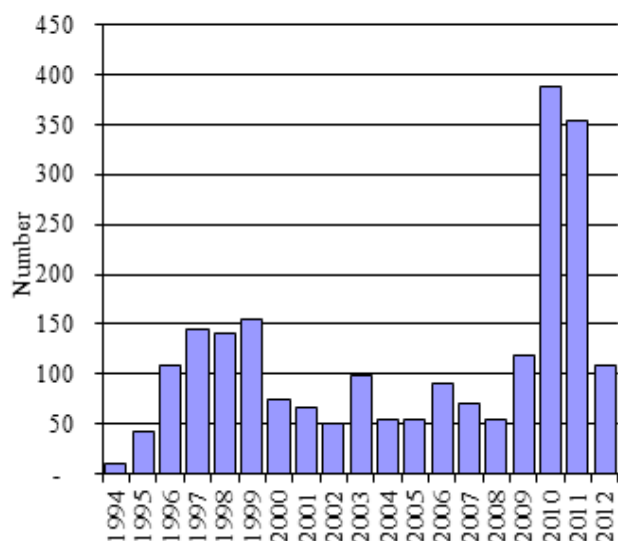
## Rainbow FW Catch (>19 cm NFL)



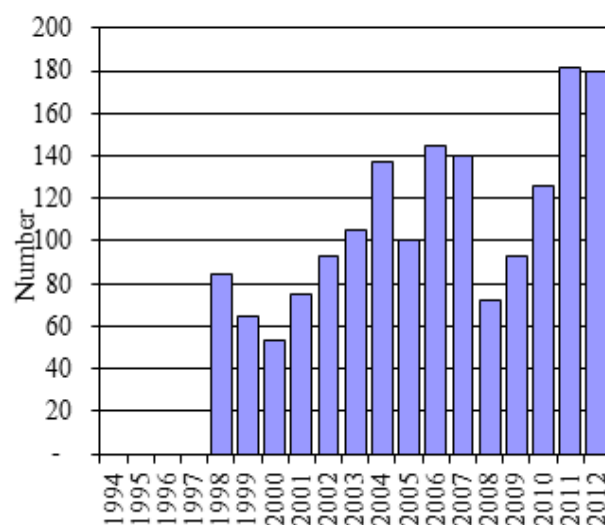
## Cutthroat FW Catch (>19 cm NFL)



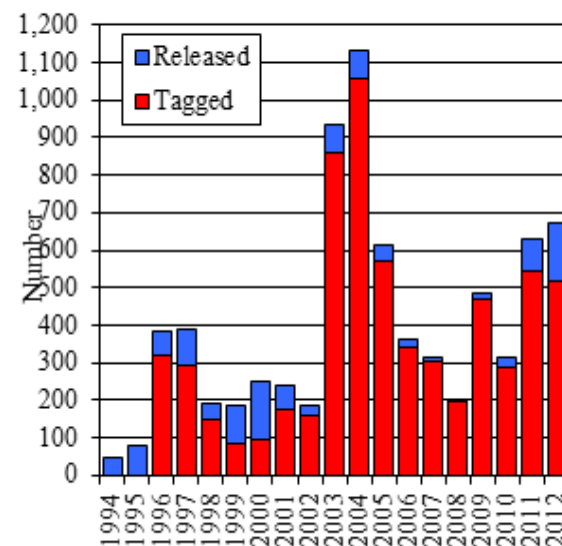
## Whitefish FW Catch



## Northern Pike Minnow FW Catch



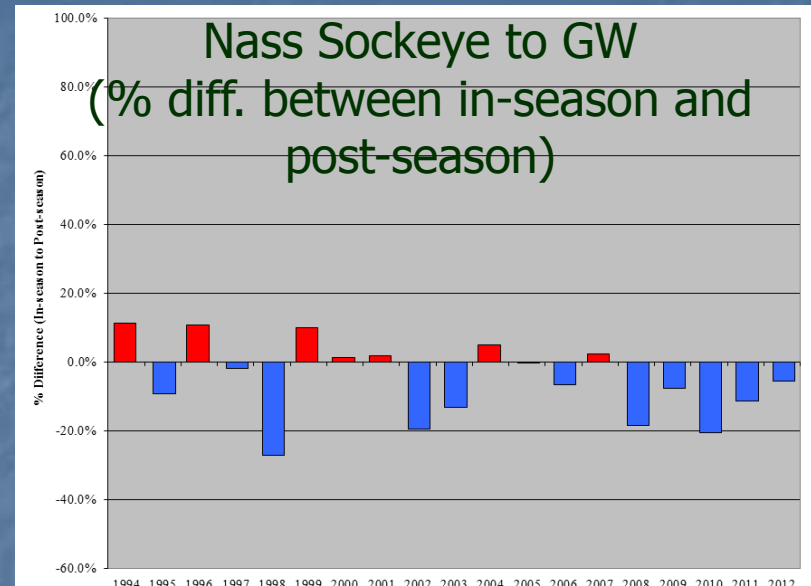
## Pacific Lamprey FW Catch





# In-season Nass River run size tracking - 2012

- ✓ Reliable in-season estimates ensured aggregate escapement goal was reached for Sockeye and Coho.
- ✓ Average difference between in-season & post-season estimates for **Nass Sockeye is -5%** (range: -27% to +11%).
- ✓ Average difference between in-season & post-season estimates for **Nass Chinook is -11%** (range: -61% to +52%).
- ✓ Average difference between in-season & post-season estimates for **Nass Coho is +7%** (range: -27% to +46%).

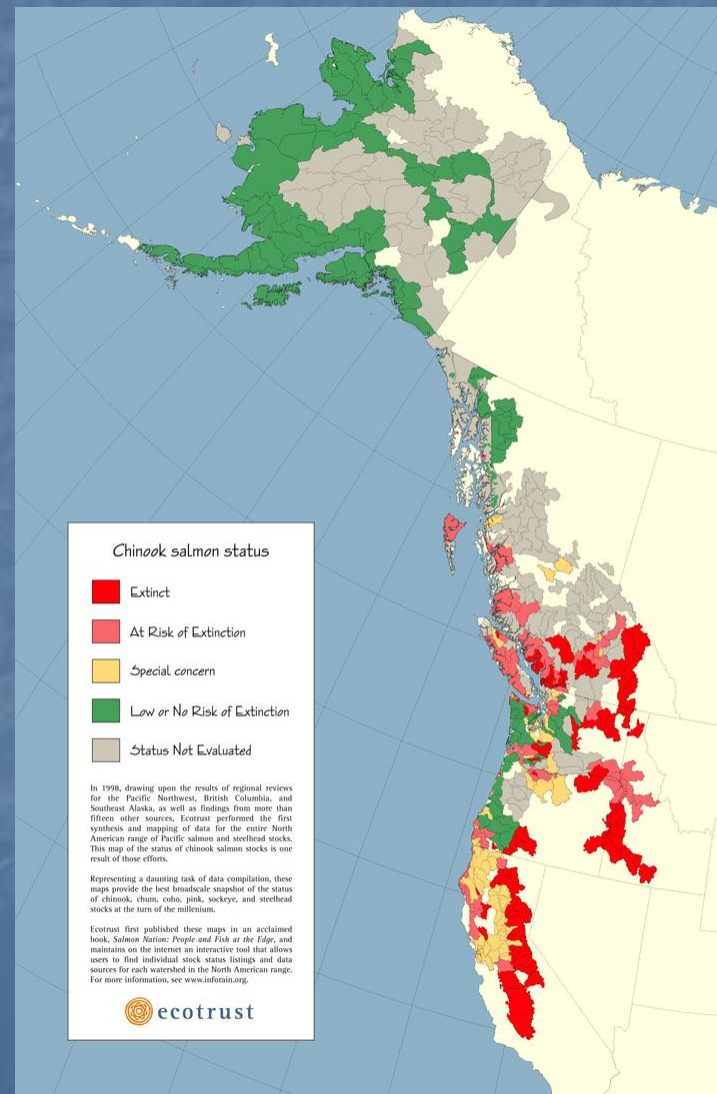


Post- Season Estimate	Sockeye	Chinook	Coho
<b>Run size estimate to Gitwinksilkw (GW) fishwheels</b>	<b>254,217</b>	<b>10,926</b>	<b>69,383</b>
<i>In-season estimate to GW fishwheels</i>	<i>240,112</i>	<i>16,640</i>	<i>101,400</i>
<i>% Difference of in-season to post-season</i>	<i>-6%</i>	<i>52%</i>	<i>46%</i>
<b>Net Escapement Estimate Above Gitwinksihlkw</b>	<b>217,845</b>	<b>8,771</b>	<b>62,320</b>

# NASS RIVER CHINOOK SENTINEL STOCK PROJECT UPDATE: 2009-2012 (YR 1-4)

## 29 Sentinel Stocks:

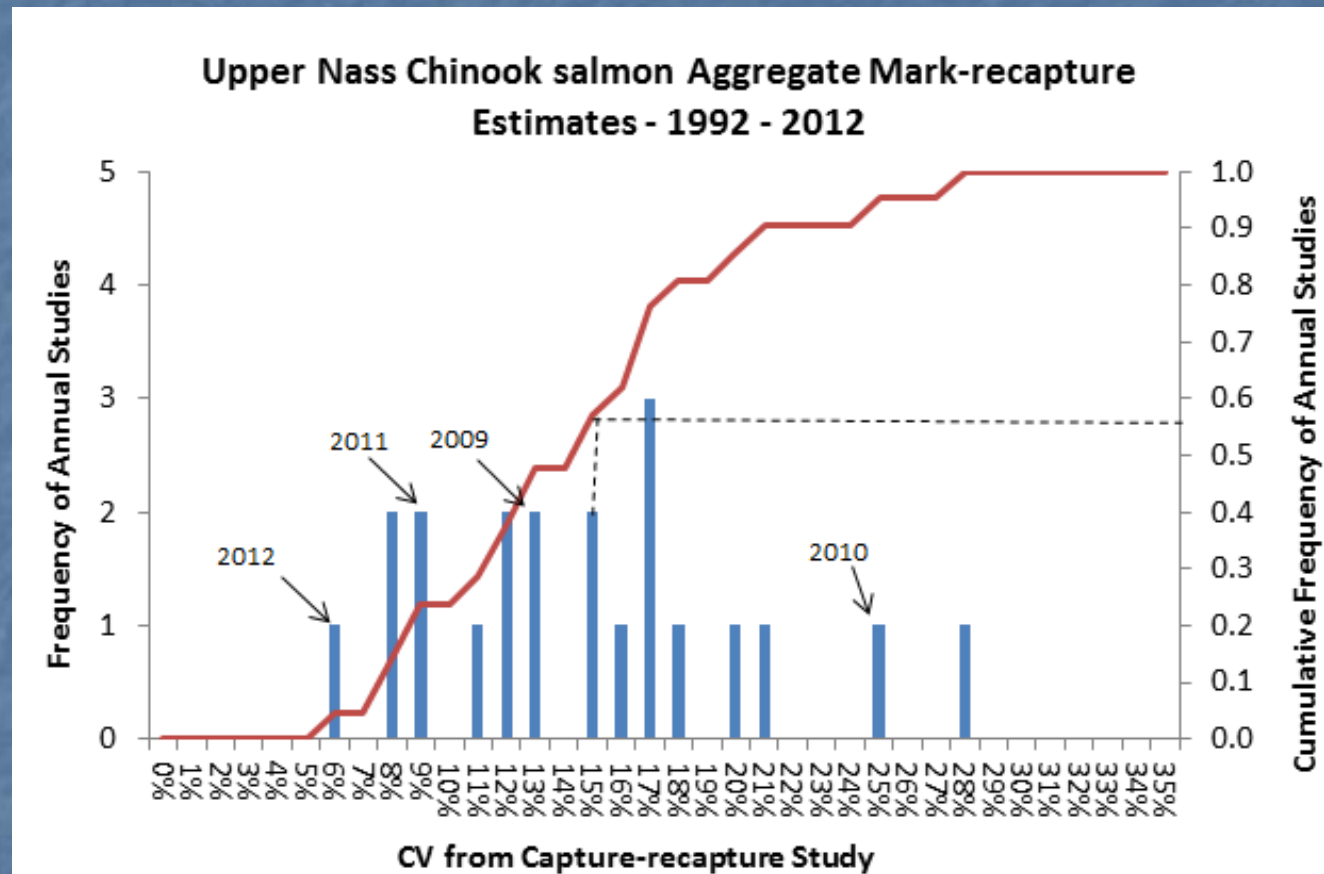
TRANSBOUNDARY	BC	OREGON	WASHINGTON
Alsek	Burman	Coos	Green River
Blossom	Dean	Coquille	
Chickamin	Harrison	Nehalem	
Keta	Kaouk	Siletz	
Stikine	Kateen	Siuslaw	
Taku	Kitsumkalum	Umpqua	
Unuk	Kwinamass		
	Leiner		
	Lower Shuswap		
	Marble		
	Middle Shuswap		
	<b>Nass River</b>		
	Nicola		
	Tahsis		
	Tranquil		
7	15	6	1





# Nass Chinook MR Population Estimate

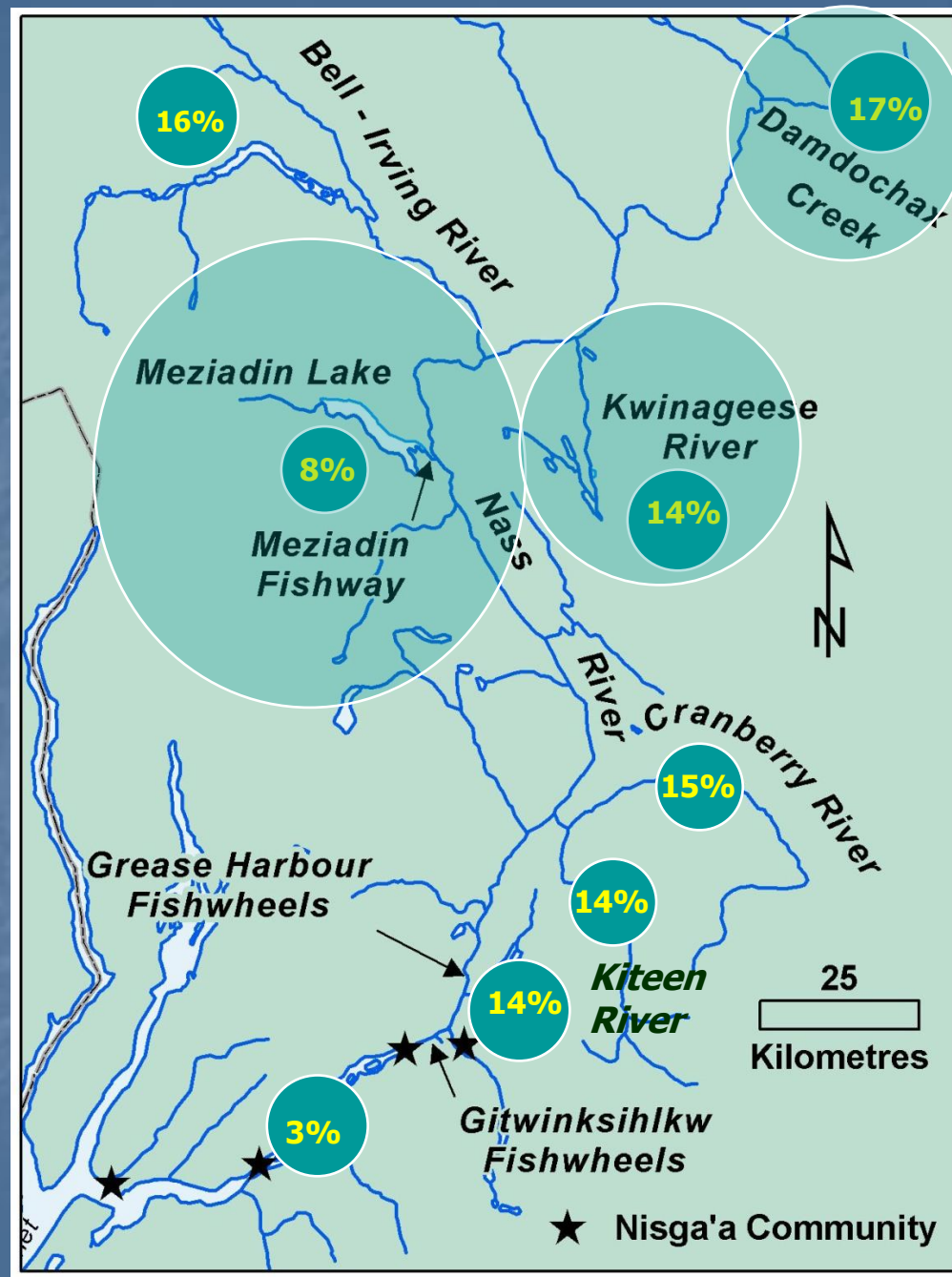
- ✓ Achieved the most accurate and precise estimate (6% CV) in 2012 compared to any other year
- ✓ Achieved the SSP CV target in 2012
- ✓ Nass Chinook mark recapture studies are achieving the 15% or less standard in 11 of 19 years (58%)



# Mean Stock Composition Estimates (1992, 1993, 2007, 2010-12):

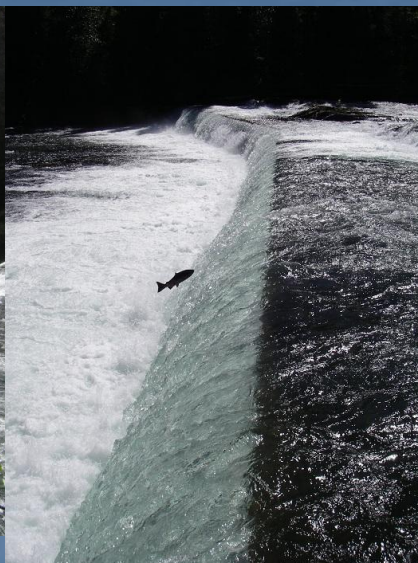
Systems	Percent allocated by stock						Mean
	1992	1993	2007	2010	2011	2012	
Damdochax	22%	23%	5%	20%	15%	<b>22%</b>	17%
Kwinageese	13%	8%	17%	21%	13%	<b>14%</b>	14%
Bell-Irving	26%	19%	13%	10%	11%	<b>10%</b>	16%
Meziadin	9%	6%	8%	6%	13%	<b>9%</b>	8%
Cranberry-Kiteen	17%	20%	36%	33%	44%	<b>35%</b>	29%
Seaskinnish	3%	8%	10%	1%	1%	<b>1%</b>	6%
Tseax	5%	14%	8%	5%	2%	<b>4%</b>	8%
Lower Nass	4%	1%	3%	3%	3%	<b>4%</b>	3%
Total	100%	100%	100%	100%	100%	100%	100%

Mark recapture programs have focused on **three** cost-effective tag recovery locations (Meziadin, Kwinageese, and Damdochax) that represent ~40% of the spawning aggregate.





# MEZIADIN FISHWAY - 2012



Meziadin Fishway (~149 km from tagging site):		Adult large salmon counted			
Year	Period of Operation	Chinook	Sockeye	Coho	Steelhead
2000	29 June to 13 October	416	137,042	1,423	46
2001	4 July to 15 October	613	116,192	5,942	72
2002	1 July to 15 October	464	332,442	5,082	41
2003	2 July to 10 October	479	196,852	3,907	30
2004	3 July to 3 October	490	140,923	4,172	58
2005	1 July to 15 October	638	142,751	7,189	85
2006	1 July to 12 October	721	146,954	5,466	39
2007	1 July to 11 October	754	104,308	2,504	27
2008	1 July to 9 October	518	150,396	3,861	29
2009	1 July to 6 October	336	168,392	5,423	18
2010	1 July to 23 October	315	159,120	4,138	81
2011	1 July to 6 October	330	167,524	2,336	12
<b>2012</b>	<b>1 July to 4 October</b>	<b>255</b>	<b>144,923</b>	<b>4,980</b>	<b>34</b>
<b>Average (2000-11)</b>		<b>500</b>	<b>163,600</b>	<b>4,300</b>	<b>40</b>

Counts were above average for Coho but below average for other species.

# Kwinageese Barrier Remediation – 2012 activities

- Funding received from PSC for monitoring and potential further remediation
- Conducted 3 Helicopter site visits
- Geotechnical assessment of canyon stability by geologist
- Potential options going forward, blasting obstruction or reinforcing weir
- Wait and see approach for now





# KWINAGEESE WEIR (15 m (49 ft)) - ~208 km upstream of tagging sites



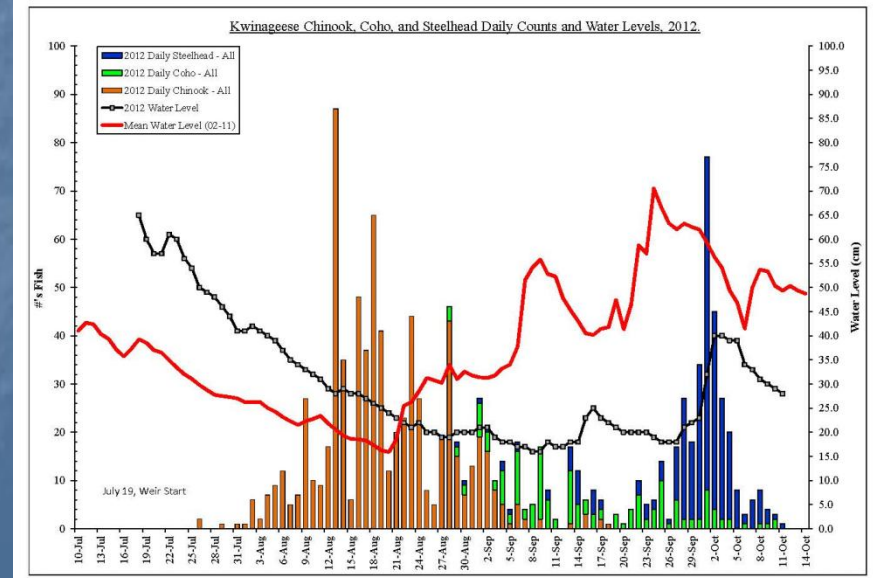
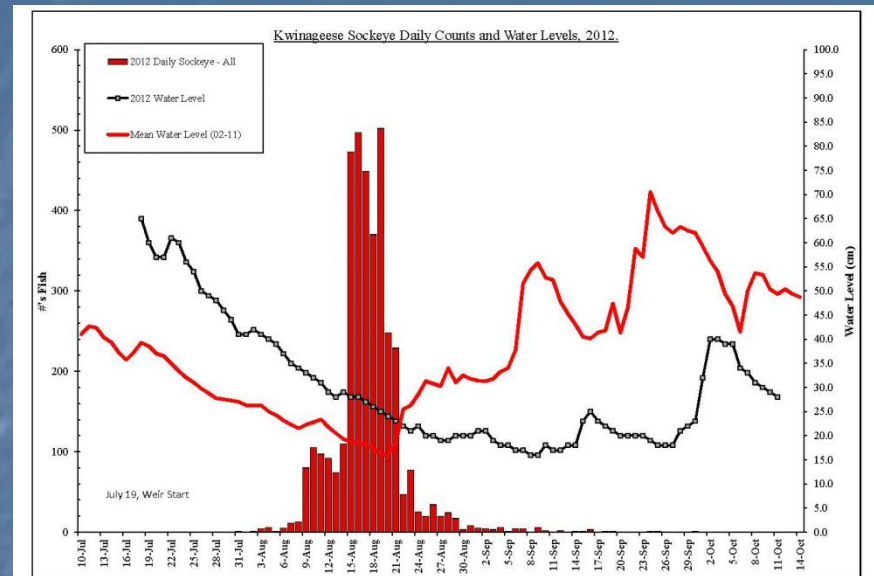
# Kwinageese Weir Daily Counts 2012

✓ Salmon and Steelhead were able to pass the barrier falls in 2012.

✓ Fish passage by the video weir site was:

- 715 Chinook
- 3,688 Sockeye
- **155 Coho**
- 296 Steelhead

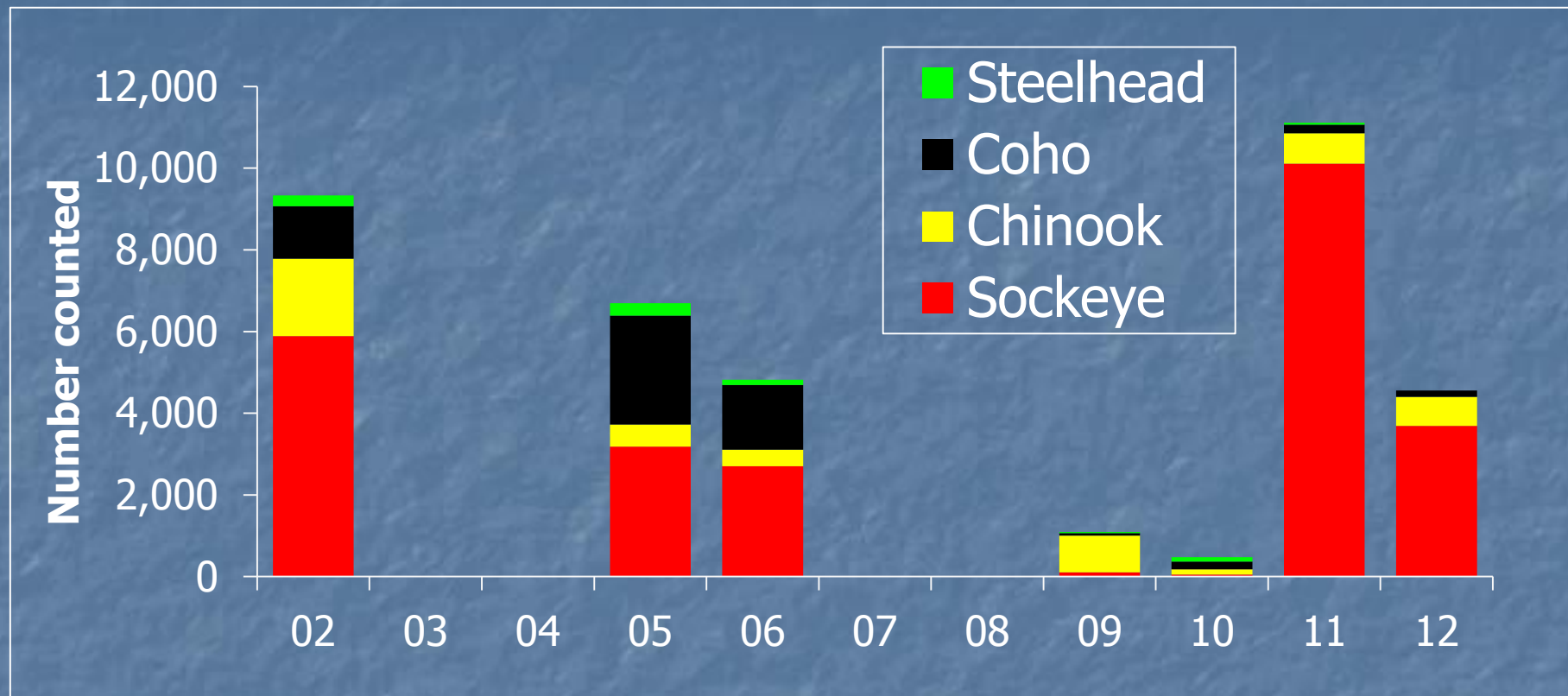
**Potential past blockage effects observed for 2012 Coho return.**





# Kwinageese River Weir Fish Counts

## 2002-12



Below average  
counts in 2012  
for all species  
except  
Steelhead

Kwinageese Weir (~208 km from tagging site):		Adult large salmon counted (net upstream)			
Year	Period of Operation	Chinook	Sockeye	Coho	Steelhead
2002	17 July to 17 October	1,893	5,891	1,283	267
2005	12 August to 22 October	538	3,186	2,663	304
2006	25 August to 5 October	410	2,700	1,582	129
2009	12 July to 15 October	895	107	60	33
2010	9 July to 19 October	131	48	191	110
2011	10 July to 5 October	740	10,273	226	50
2012	19 July to 11 October	715	3,688	155	296
ADJUSTED MEAN COUNT AT KWIN (2002,05,06,11)		1,140	6,730	1,530	220



# DAMDOCHAX CARCASS SURVEYS

~300 km upstream of marking sites

Three surveys  
from peak  
spawning to peak  
die-off  
4, 10 and 15 Sept





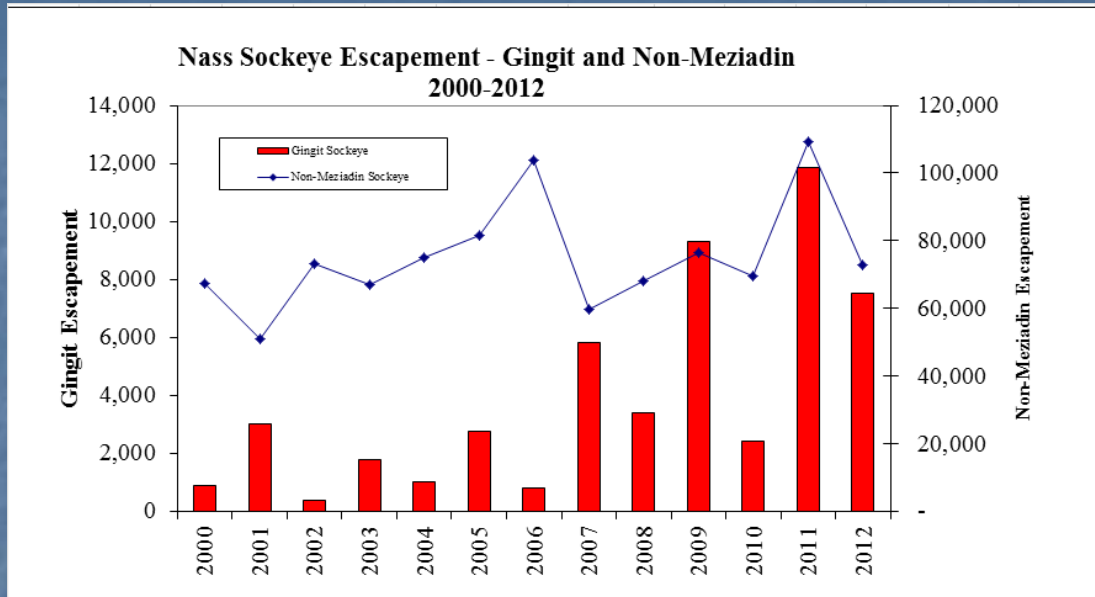
# Non-Meziadin Sockeye Research Gingit Creek 2012

## ✓ **Gingit Creek:**

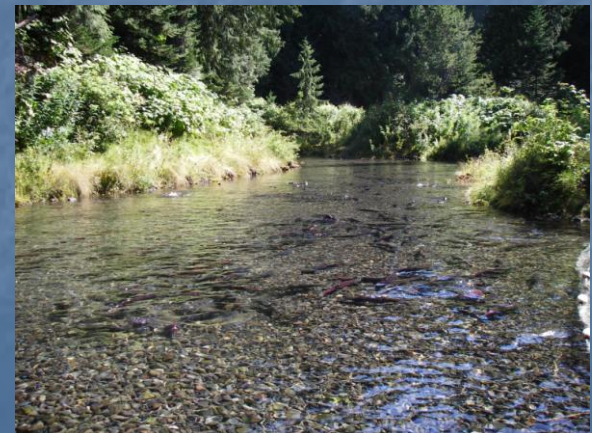
Nine surveys: 19 and 26 July; 2, 9, 16, 23 & 30 August; and 5 and 14 September.

Counts expanded for unsurveyed habitat and reach specific estimates of observer efficiency.

Preliminary escapement estimate of **7,499** based on AUC with 11.5 day residence time calculated from FW tag colours



Year	Sockeye
2000	870
2001	3,000
2002	380
2003	1,790
2004	990
2005	2,770
2006	810
2007	5,830
2008	3,380
2009	9,310
2010	2,427
2011	11,837
2012	7,499
Mean - 00-11	4,000



# ZOLZAP COHO ASSESSMENT PROGRAM - 2012





# ZOLZAP ASSESSMENT RESULTS – 2012

## Northcoast wild Coho salmon indicator stock

✓ Operation dates for fences were 23 April- 10 June (Juvenile) and 5 Sep to 15 November (adult).

✓ 45,407 CWT Coho smolts released in 2012 (third year of renewed Coho juvenile release program).

✓ Captured 840 adult Coho in the trap box

- 162 of 840 were CWT (19.2% CWT rate)
- Tagged 829 of the 840 with vinyl cinch tags

✓ Crew recaptured 114 adult Coho above the weir

- MR estimate = 888 (CV 10%)

Year	Juvenile fence operational period	Days operated	# CWT's Released	Adult fence operational period	Coho Fence Count	Coho Population Estimate <sup>a</sup>	Exploitation Rate (%) <sup>b</sup>		
							Canadian	American	Total
1992	22 Apr-25 May	34	33,150	8 Sept-9 Oct					
1993	21 Apr-20 Jun	61	22,649	25 Aug-19 Nov	794	1,048	15.5	47.5	63.0
1994	24 Apr-20 Jun	58	29,319	22 Aug-29 Dec	2,438	2,536	18.6	53.7	72.3
1995	23 Apr-15 Jun	54	10,156	5 Sept-6 Dec	908	908	12.9	54.8	67.7
1996	16 Apr-20 Jun	66	20,519	31 Aug-16 Nov	1,039	1,039	21.4	39.2	60.6
1997	23 Apr-20 Jun	59	13,566	2 Sept-11 Nov	470	470	8.8	45.4	54.2
1998	29 Apr-23 Jun	56	13,900	31 Aug-19 Nov	967	967	0.0	46.0	46.0
1999	21 Apr-13 Jun	54	14,572	26 Aug-21 Oct	1,302	1,393	1.2	48.3	49.5
2000	25 Apr-17 Jun	54	30,132	22 Aug-15 Nov	409	456	11.1	40.9	52.0
2001	25 Apr-8 Jun	45	22,216	20 Aug-23 Nov	1,897	1,897	7.8	42.0	49.8
2002	29 Apr-21 Jun	54	12,318	21 Aug-5 Oct	1,918	3,233	3.3	16.6	19.9
2003	30 Apr-6 Jun	38	26,305	24 Aug-25 Oct	1,444	2,855	6.1	34.0	40.1
2004	23 Apr-2 June	41	25,742	23 Aug-10 Nov	393	1,631	5.1	41.0	46.1
2005	Did not operate			Did not operate		1,360			
2006	Did not operate			Did not operate		265			
2007	Did not operate			Did not operate		338			
2008	Did not operate			Did not operate		NI			
2009	Did not operate			Did not operate		1,138			
2010	24 Apr-29 May	36	31,273	Did not operate		738			
2011	21 Apr-21 June	62	14,575	26 Aug-9 Nov	223	439			
2012	23 Apr-10 June	49	45,407	6 Sep-15 Nov	843	888			
Mean		51	21,359		1,092	1,262	9.3	42.5	51.8
Min		34	10,156		223	265	0.0	16.6	19.9
Max		66	33,150		2,438	3,233	21.4	54.8	72.3

<sup>a</sup> Population estimate includes mark-recapture estimates or AUC estimates in years when the adult fence did not operate.

<sup>b</sup> Exploitation rate includes Canadian and American catch.

✓ Other adult counts at fence were: 1 Sockeye, 3 Chum , 114 Pink and 0 Steelhead.

# Lower Nass Adult Coho Assessments 2012

2 index systems surveyed for adult Coho in 2012 (29 Sep to 23 November):

✓ **Ansedegan Creek:**

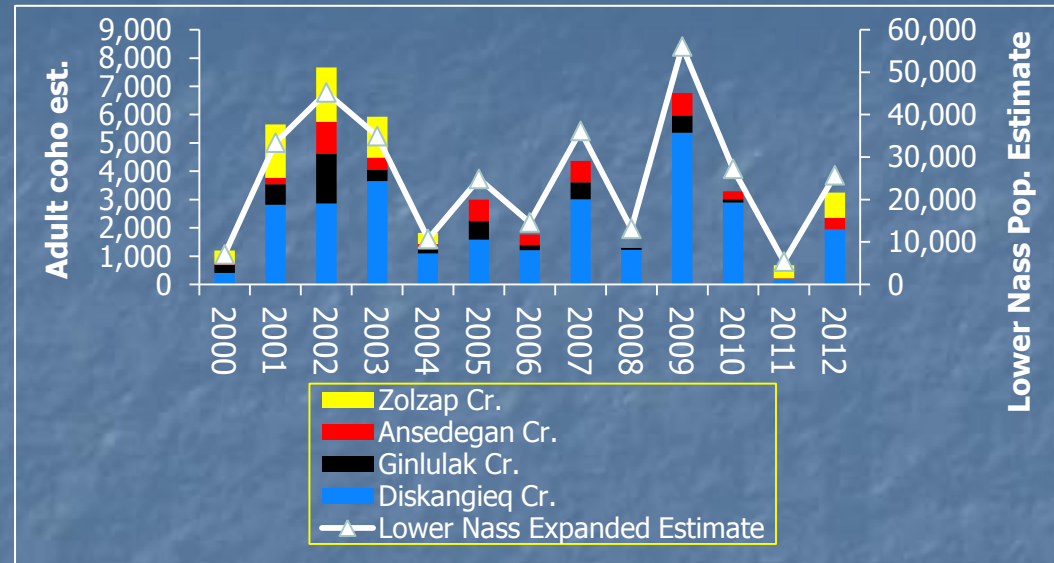
Six surveys : 30 Sep; 10, 20, 30 Oct; 8, 14 November.

✓ **Diskangieq Creek:**

Seven surveys: 1, 5, 11, 21 & 31 October; and 9 & 15 November.

- ✓ Exploratory surveys were also conducted on **Zolzap Creek, Gitzyon Creek, Vetter Creek** sloughs, **Georgie River, Belle Bay Creek, Donahue Creek, Walt Creek** and **Roberson Creek**.  
Survey effort was not adequate to generate escapement estimates.

Counts and escapement estimates for 2012 were just below average; but the overall estimate for the aggregate Lower Nass was average.



Year	Diskangieq Cr.	Ginlulak Cr.	Ansedegan Cr.	Zolzap Cr.	Lower Nass Expanded Estimate
2000	408	282	58	456	7,107
2001	2814	730	218	1897	33,403
2002	2866	1758	1122	1918	45,237
2003	3648	416	413	1444	34,949
2004	1102	135	188	393	10,731
2005	1580	663	758		24,863
2006	1206	187	371		14,614
2007	3008	597	762		36,180
2008	1228	61			13,132
2009	5360	608	799		56,063
2010	2896	117	277		27,257
2011	198	NI	19	463	5,399
2012	1946	NI	408	888	25,740
Mean 00-11	2,200	500	500	1,100	25,700



# Lower Nass Chum & Pink salmon Assessments 2012

- ✓ Eight surveys were conducted on **Ksemamaith Creek** in 2012 with Chum salmon counted on four (13, 20, and 27 August and 3 September). AUC escapement estimates were **32 Chum salmon (90% CIs 19-97)** and **1,723 Pink salmon (90% CIs 1125-3647)**.
- ✓ Seven surveys were conducted on a groundwater-fed tributary of the **Tseax Slough** (locally known as the Tseax second mouth) with Chum salmon counted on all surveys (13, 20 & 27 August; and 3, 13, 18 & 25 September). AUC escapement estimates were **143 Chum salmon (90% CIs 85-427)** and **187 Pink salmon (90% CIs 131-363)**.
- ✓ Three surveys were conducted on **Kincolith River** (28 August and 9, 21 September) yielding an AUC escapement estimate of **7,546 Pink salmon (90% CIs 4,707-16,102)**. Only one live Chum salmon was observed during Kincolith surveys.



# Nass Steelhead and Trout Projects

- ✓ Aggregate Summer-run population estimates in 2012 from fin marking and fishwheel catch index methods
- ✓ Scale-aging conducted in 2012 for fishwheel caught Steelhead
- ✓ Opportunistic trout tagging at Zolzap operation
- ✓ Counts of adult Bull Char at Meziadin and Kwinageese

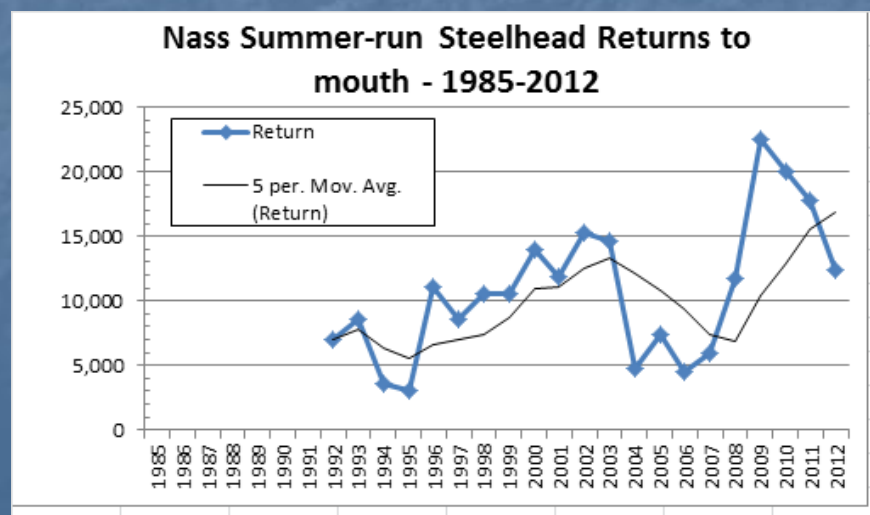
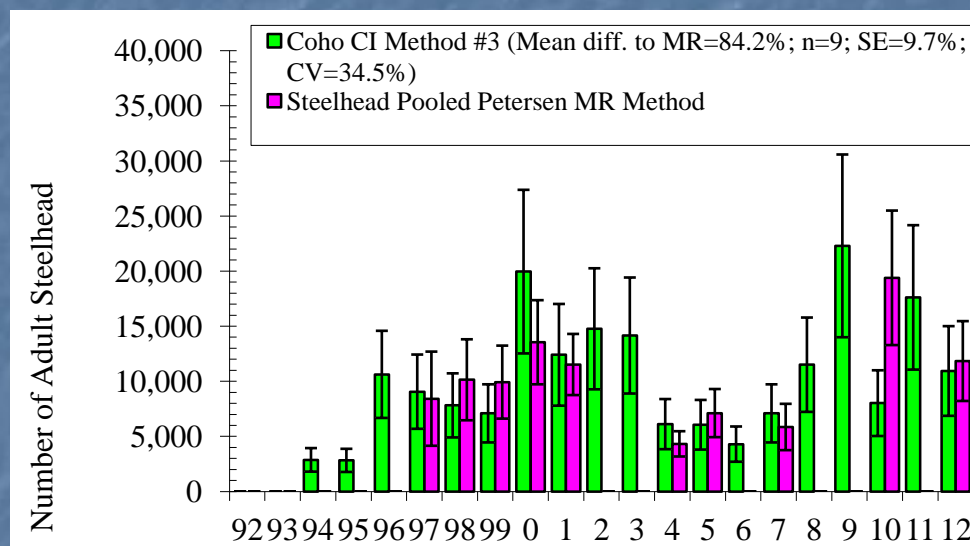




# NASS SUMMER-RUN STEELHEAD RETURNS USING A FISHWHEEL CATCH INDEX METHOD AND MARK RECAPTURE TECHNIQUES

- ✓ Estimated ~12,000 summer-run Steelhead to GW in 2012 (CV=17%) and ~11,500 as net escapement based on mark-recapture techniques where 1398 marks were released, 330 fish examined at upstream stock assessment facilities, and 33 marked fish counted or recaptured.
- ✓ The fishwheel catch-index method estimated similar numbers as the MR method (~11,000 to GW; CV=34%).

Returns in 2012 were average when compared to returns from 1994 to 2011.



## **NISGA'A FISHERIES PROGRAM: CATCH MONITORING PROGRAMS**

- Nisga'a salmon catch monitoring has been occurring since 1992 and includes four catch monitors in each of the communities with the program running typically from May to end of August.
- Nisga'a eulachon catch monitoring has occurred on an annual basis since 1997 and includes some biological sampling.
- Non-salmon catch monitoring was funded from 2000-04 and since 2010. Estimates are very important in determining base domestic (FSC) needs for the Nisga'a Nation to finalize the treaty.
- In-river recreational monitoring , Streams monitored in 2012 included Kincolith and Tseax.

**The following slides show summary information.**



# Nisga'a Salmon Entitlements & Catches – 2000-2012

Year	Nisga'a Entitlement					Nisga'a Harvests					
	Sock.	Pink	Chin.	Coho	Chum	Sock.	Pink	Chin.	Coho	Chum	Steel
2000	93,853	28,033	7,031	9,072	12,601	93,177	6,086	9,326	1,950	1,067	495
2001	62,524	143,952	10,421	14,977	7,071	77,183	79,378	11,764	14,706	1,617	403
2002	195,288	53,031	6,489	19,200	9,899	140,666	2,043	5,431	9,016	132	557
2003	161,879	162,090	9,198	13,637	7,514	140,861	18,949	6,709	14,882	318	445
2004	117,388	244,943	6,928	10,684	5,750	145,241	10,528	5,548	20,336	1,030	512
2005	89,454	227,964	5,940	15,816	3,392	113,345	4,519	6,015	14,969	698	244
2006	111,590	21,121	9,049	7,999	6,285	88,021	3,753	7,250	8,425	1,110	251
2007	51,662	138,845	8,798	10,935	453	53,863	6,159	6,724	9,515	932	116
2008	47,754	3,213	6,160	9,651	179	45,444	4,372	4,450	3,450	506	179
2009	68,094	121,977	7,798	19,200	2,917	69,446	24,572	5,435	13,794	139	266
2010	57,488	39,567	5,520	13,725	282	67,691	2,493	4,581	10,292	102	709
2011	76,029	13,374	6,474	9,190	146	60,441	45,719	4,584	2,635	210	193
<b>2012</b>	<b>65,710</b>	<b>64,047</b>	<b>4,901</b>	<b>12,957</b>	<b>559</b>	<b>68,759</b>	<b>20,224</b>	<b>3,547</b>	<b>12,082</b>	<b>316</b>	<b>851</b>
<b>Mean 00-11</b>	<b>94,000</b>	<b>100,000</b>	<b>7,000</b>	<b>13,000</b>	<b>4,700</b>	<b>91,000</b>	<b>17,000</b>	<b>6,000</b>	<b>10,000</b>	<b>1,000</b>	<b>400</b>

Entitlements and harvests in 2012 were below average with the exception of Coho. The underage of Sockeye accrued in 2011 was used in 2012. Final cumulative account status going into 2012 is underages of 2200 Sockeye, 8400 Chinook, 7000 Coho and 33,000 Chum. An overage of 32,705 Pink will be reduced from the 2013 entitlement.

# Nass Salmon In-river Sport Fishery Catch Estimates – 2000-2012

Year	In-river Recreational Catch					Tidal Recreational Catch					Total Recreational Catch				
	Sock.	Pink	Chin.	Coho	Chum	Sock.	Pink	Chin.	Coho	Chum	Sock.	Pink	Chin.	Coho	Chum
2000	15	UNK	1,237	275	UNK	UNK	UNK	986	1,376	UNK	15	UNK	2,223	1,651	UNK
2001	3	UNK	1,050	411	UNK	UNK	UNK	1,705	7,418	UNK	3	UNK	2,755	7,829	UNK
2002	25	UNK	870	340	UNK	UNK	UNK	1,116	4,125	UNK	25	UNK	1,986	4,465	UNK
2003	UNK	UNK	1,190	157	UNK	UNK	UNK	1,167	4,495	UNK	UNK	UNK	2,357	4,652	UNK
2004	UNK	UNK	930	171	UNK	UNK	UNK	1,925	4,370	UNK	UNK	UNK	2,855	4,541	UNK
2005	UNK	UNK	773	482	UNK	UNK	UNK	1,542	4,844	UNK	UNK	UNK	2,315	5,306	UNK
2006	UNK	UNK	1,311	70	UNK	UNK	UNK	983	4,147	UNK	UNK	UNK	2,294	4,217	UNK
2007	UNK	UNK	1,518	466	UNK	UNK	UNK	1,810	3,945	UNK	UNK	UNK	3,328	4,411	UNK
2008	UNK	UNK	1,317	148	UNK	UNK	UNK	1,620	5,102	UNK	UNK	UNK	2,937	5,250	UNK
2009	UNK	UNK	1,296	1,600	UNK	UNK	UNK	1,316	5,931	UNK	UNK	UNK	2,612	7,531	UNK
2010	119	UNK	547	212	UNK	UNK	UNK	399	3,822	UNK	119	UNK	946	4,034	UNK
2011	7	UNK	569	219	UNK	UNK	UNK	898	4,789	UNK	7	UNK	1,467	5,008	UNK
2012	0	UNK	550	162	UNK	UNK	UNK	273	2,145	UNK	0	UNK	823	2,307	UNK
Mean 00-11	0		1,100	400				1,300	4,500		0		2,300	4,900	

## 2012:

In-river sport catches were below average for Chinook and Coho; but we only monitored Tseax and Kincolith.

Tidal sport catches were below average for Chinook and just above average for Coho. Total sport catch estimates were below average for Chinook and Coho.



# Nass Salmon Canadian Commercial Harvest Estimates – 2000-2012

## (CF Data provided by DFO)

Year	COMMERCIAL (NET & TROLL)					HARVEST TOTALS (ALL FISHERIES)				
	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum
2000	239,022	78,162	1,826	2,367	7,994	335,098	84,248	13,424	6,066	9,061
2001	131,879	195,663	928	6,478	5,178	211,609	275,041	15,642	29,412	6,795
2002	725,478	178,820	5,980	11,886	3,934	873,127	180,863	13,548	25,393	4,066
2003	615,584	176,333	6,076	24,836	14,350	759,917	195,282	15,323	44,438	14,668
2004	317,649	495,506	6,689	35,694	10,185	465,512	506,034	15,322	60,615	11,215
2005	173,573	357,649	3,115	29,873	2,694	297,031	362,168	11,624	50,866	3,392
2006	291,650	33,264	4,513	9,870	14,152	386,131	37,017	14,513	22,904	15,263
2007	130,920	293,752	4,031	18,748	1,117	186,108	299,911	14,107	32,801	2,049
2008	59,975	3,213	385	6,842	303	114,825	7,585	7,946	15,596	809
2009	102,572	65,065	1,123	19,143	2,778	180,190	89,637	9,318	40,795	2,917
2010	71,079	4,782	822	15,807	1,173	148,043	7,275	6,437	30,326	1,275
2011	110,691	13,374	1,204	21,309	452	184,230	59,093	7,358	28,970	662
2012	113,420	59,287	796	22,867	2,213	196,477	79,511	5,271	37,443	2,529
Mean 00-11	259,944	158,000	3,000	17,000	5,000	345,000	175,000	12,000	32,000	6,000

2012:

Commercial harvests for all Nass species other than Coho were below average.  
Total harvests for all Nass species were below average.

# Alaska Salmon Catches 2012

IN-SEASON ALASKAN CUM. SALMON CATCH ESTIMATES (ADFG WEBSITE) - 2012								WEEK END: 22-Sep-12			
DISTRICTS	AREA	SOCK CATCH	AVG (00- 11)	CHIN CATCH	AVG (00- 11)	PINK CATCH	AVG EVE (00-11)	CHUM CATCH	AVG (00- 11)	COHO CATCH	AVG (00- 11)
DIST 101 GN	TREE PT	51,000	83,000	1,100	1,400	202,810	399,100	279,000	248,000	53,600	41,600
DIST 106 GN	UPP. CLAR	43,000	101,000	1,500	1,500	126,000	145,000	101,000	195,000	103,600	125,600
DIST 101 SN	LOW CLAR	16,000	64,500	100	900	2,732,000	4,687,000	206,000	282,000	46,300	36,800
DIST 102 SN	MID CLAR	44,000	34,000	600	750	4,985,000	2,912,300	1,235,000	425,000	81,600	47,500
DIST 103 SN	CORDOVA	3,000	28,000	200	500	1,010,000	2,247,000	37,000	145,000	14,000	31,000
DIST 104 SN	NOYES/DALL	63,000	280,000	2,800	6,800	5,231,000	2,101,000	229,000	178,000	82,200	62,500
<b>CUMULATIVE TOTAL</b>		<b>220,000</b>	<b>590,500</b>	<b>6,300</b>	<b>11,850</b>	<b>14,286,810</b>	<b>12,491,400</b>	<b>2,087,000</b>	<b>1,473,000</b>	<b>381,300</b>	<b>345,000</b>

Alaskan catches in 2012 were below average for Sockeye and Chinook; and above average for Pink, Chum, and Coho salmon.

High Alaskan catches of Chum salmon with over 80% of stocks enhanced & large mixed stock fisheries conducted each year while Nass Area Chum stocks continue to decline. Two billion enhanced Pink and Chum salmon are released each year by Alaska that support these large fisheries.



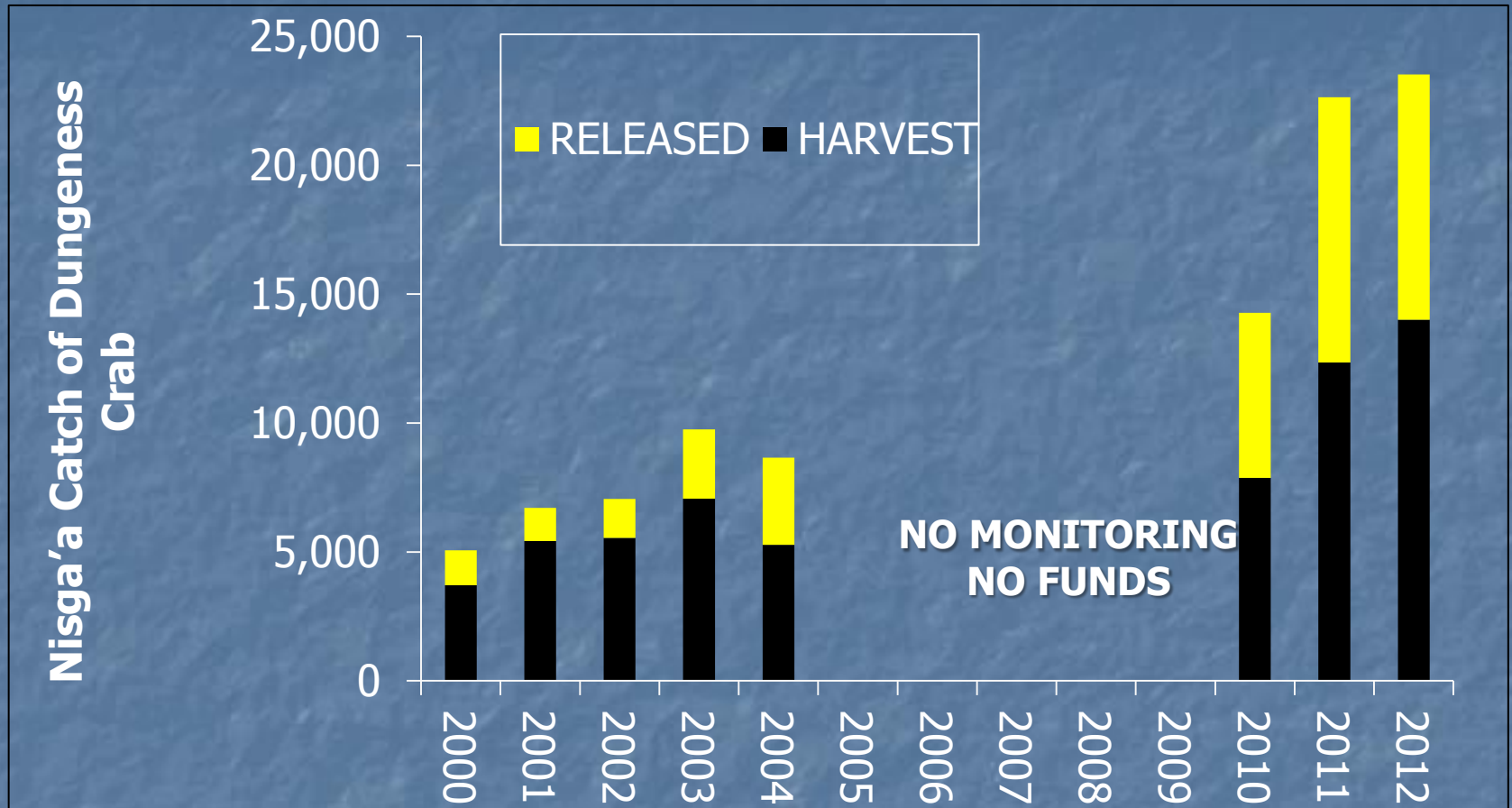
# NON-SALMON CATCH MONITORING

Species	2000 <sup>1</sup> (June-Dec)	2001 <sup>2</sup> (Jan-Dec)	2002 <sup>3</sup> (Jan-Dec)	2003 <sup>4</sup> (Jan-Dec)	2004 <sup>5</sup> (Jan-Dec)	2010 <sup>6</sup> (Jan-Dec)	2011 <sup>7</sup> (Jan-Dec)	2012 <sup>8</sup> (Jan-Dec)
Number of interviews	134	244	197	275	231	382	460	649
Dungeness crabs (caught)	5,057	6,712	7,057	9,750	8,651	14,281	22,735	30,807
Dungeness crabs (kept)	3,707	5,418	5,549	7,071	5,276	7,872	12,455	18,626
King crabs (kept)	NR	NR	NR	NR	NR	NR	NR	NR
Prawns (lbs)	NR	NR	NR	NR	5	NR	NR	NR
Halibut (pieces)	236	290	258	294	536	793	826	2,154
Sablefish (pieces)	NR	NR	NR	NR	NR	76	51	172
Red snapper (pieces)	NR	NR	NR	NR	NR	66	45	100
Rockfish (pieces)	0	0	0	27	113	34	17	2
Pacific Cod (pieces)	NR	NR	NR	NR	NR	32	109	151
Skate (pieces)	NR	NR	NR	NR	NR	26	141	7
Lingcod (pieces)	NR	NR	NR	NR	NR	7	NR	1
Flatfish (pieces)	NR	NR	NR	NR	NR	1	NR	NR
Dogfish (pieces)	NR	NR	NR	NR	NR	NR	NR	15
Cockles <sup>9</sup> (pieces)	16,725	13,100	33,733	17,544	28,200	7,155	11,550	16,935
Clams <sup>9</sup> (pieces)	4,088	7,650	9,633	5,766	12,500	19,070	10,640	32,270
Mussels (lbs)	20	180	80	NR	100	25	NR	NR
Herring (pieces)	NR	NR	NR	NR	10	N/A	NR	NR
Octopus (pieces)	NR	NR	NR	NR	NR	NR	1	NR
Seals (pieces)	2	11	20	10	24	2	NR	NR
Sea-lions (pieces)	0	51	19	32	30	18	42	46
Seaweed (lbs)	NR	NR	NR	NR	390	NR	NR	NR
Kelp (totes)	NR	NR	NR	NR	NR	NR	NR	2

2012:

- ✓ High number of interviews conducted.
- ✓ Largest catches of Crab and Halibut; low Cackle catches reported to date.

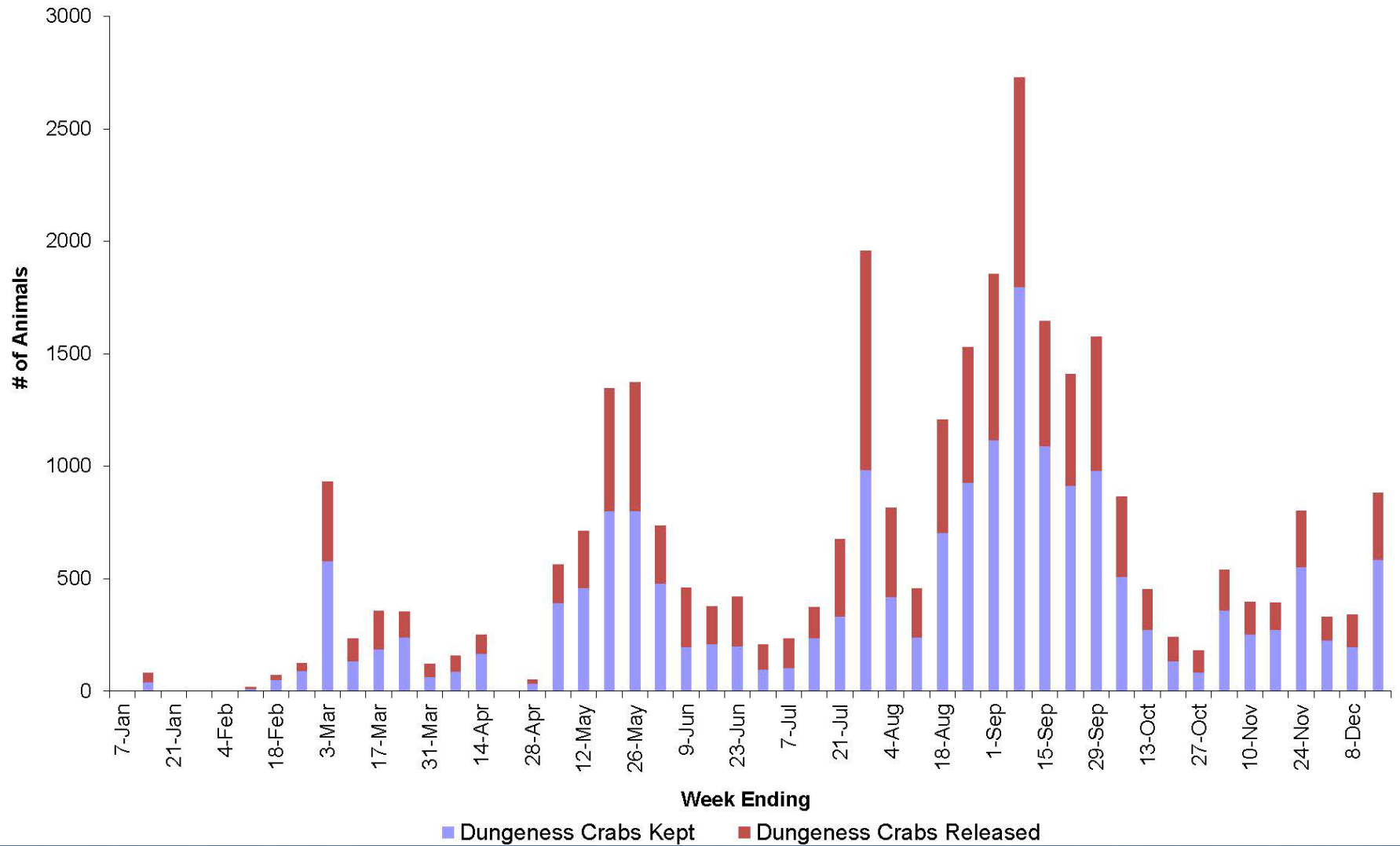
# NISGA'A HARVESTS OF DUNGENESS CRABS 2000-2012



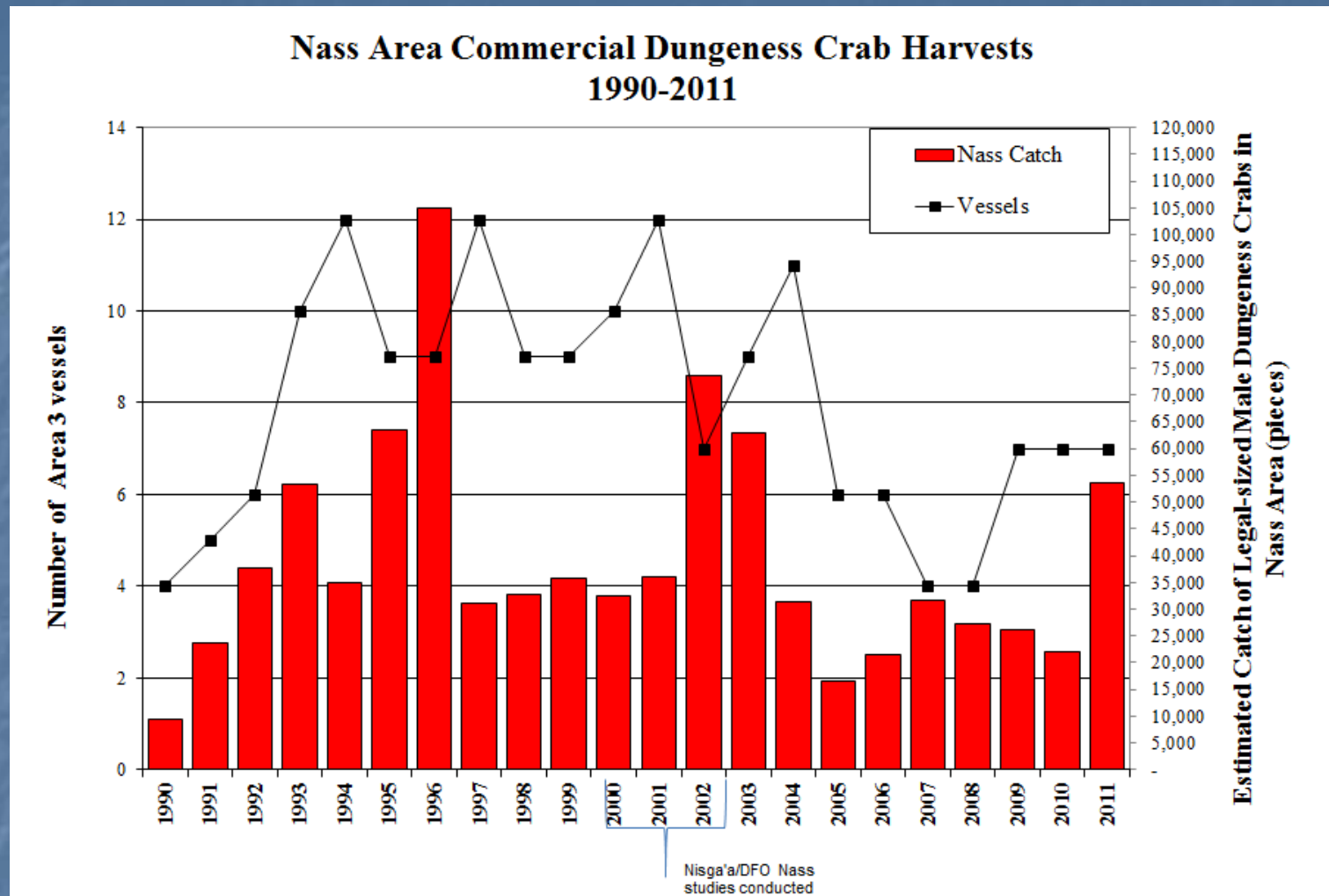
Catches appear to be rising since road built. Timing of harvest is essentially over the whole year. No Crab festival in Gingolx in 2012.



# Total Number of Dungeness Crab Harvested and Released January through December 18 2012



# Nass Crab Commercial Catches – 2000-2011



**\*Commercial fishery request in 2010 for fishing two weeks earlier could result in double the catch. Large catch in 2011. No catch reports yet from 2012 (Oct-Nov). Assessment programs planned in 2013.**



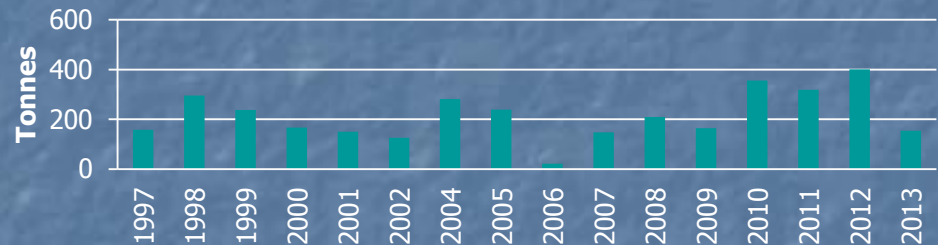
# Nisga'a Eulachon Catch Estimates (tonnes) - 1997-2013

Average catches of Eulachon since 2009

Eulachon catch in 2013 was 218 tonnes.

Nass Eulachon are being reassessed by COSEWIC in May 2013.

Preliminary 2013 Nisga'a Eulachon Catch (Tonnes)



Year	Start Date	End Date	Fishing Days	Fishing Camps (Nisga'a & Tsimp.)	Catch (Tonnes )	Est. no fish caught (mean wt: 40g)
1997	14-Mar-97	25-Mar-97	12	5	158	4,000,000
1998	11-Mar-98	22-Mar-98	12	6	296	7,400,000
1999	5-Mar-99	24-Mar-99	20	4	237	5,900,000
2000	7-Mar-00	28-Mar-00	22	4	168	4,200,000
2001	6-Mar-01	22-Mar-01	17	4	150	3,800,000
2002	26-Feb-02	28-Mar-02	31	4	126	3,200,000
2004	3-Mar-04	28-Mar-04	20	4	282	7,000,000
2005	4-Mar-05	25-Mar-05	22	3	240	6,000,000
2006	7-Mar-06	29-Mar-06	23	4	22	500,000
2007	5-Mar-07	25-Mar-07	21	5	148	3,700,000
2008	7-Mar-08	26-Mar-08	20	6	209	5,200,000
2009	1-Mar-09	26-Mar-09	26	5	164	4,100,000
2010	6-Mar-10	20-Mar-10	15	7	356	8,900,000
2011	10-Mar-11	29-Mar-11	20	5	318	8,000,000
2012	27-Feb-12	27-Mar-12	30	7	400	10,010,397
<b>2013</b>	<b>1-Mar-13</b>	<b>On-going*</b>	<b>15*</b>	<b>6</b>	<b>154</b>	<b>3,852,500</b>
<b>Average</b>			<b>21</b>	<b>5</b>	<b>214</b>	<b>5,360,181</b>

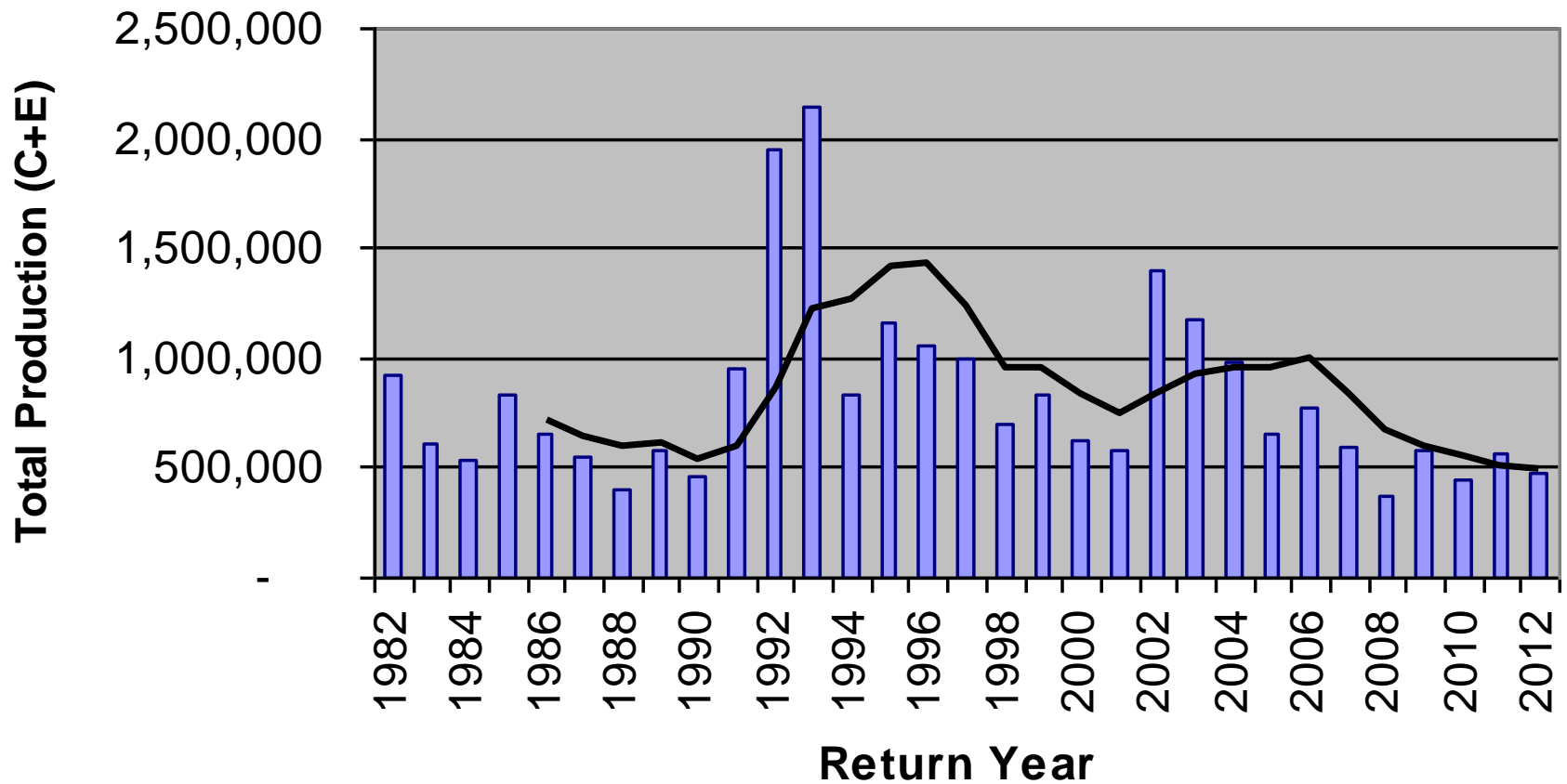
\*Note: Preliminary numbers as fishery is still in progress.

# **NASS SALMON STOCK STATUS**



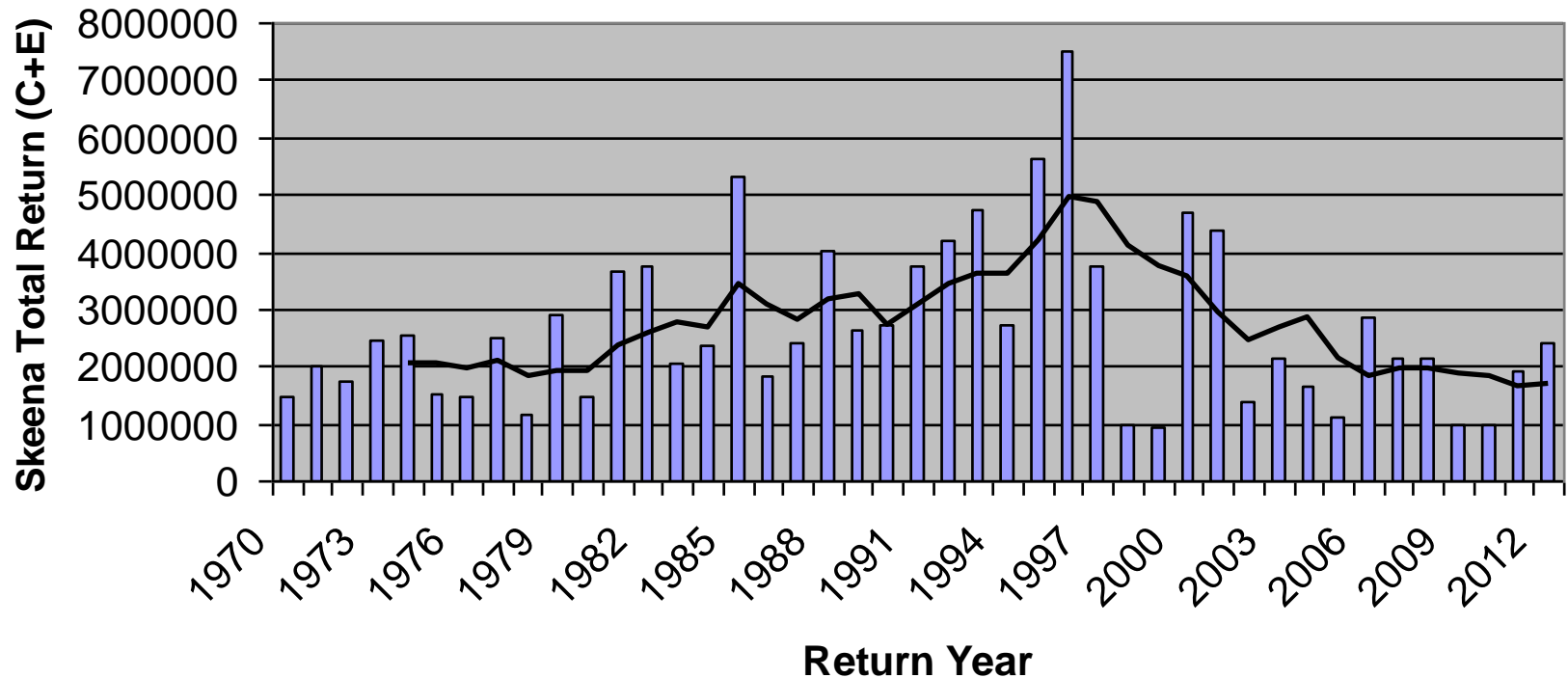
# 2012 Nass Sockeye Return

**= 477,000** (TRTC = 414k)  
(forecast was 298k < 446k < 692k)



**2012 Skeena Return**  
**=2,400,000**  
(forecast was 769k < 1.4m < 2.7m)

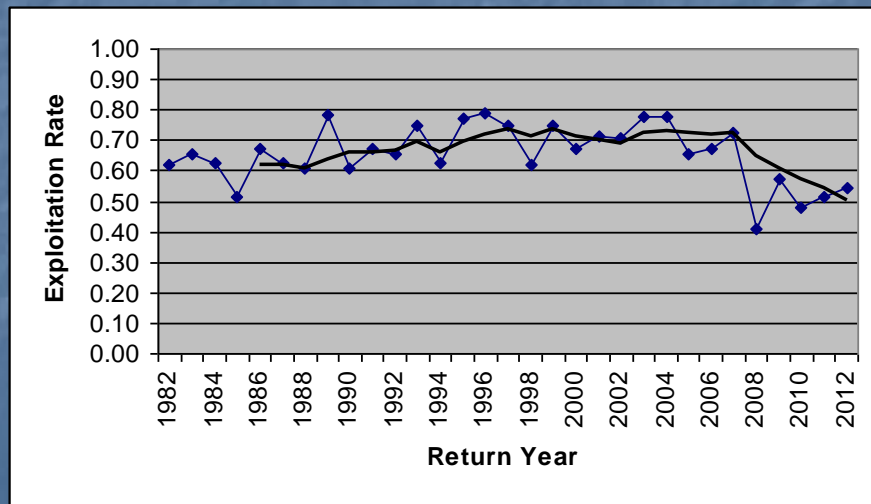
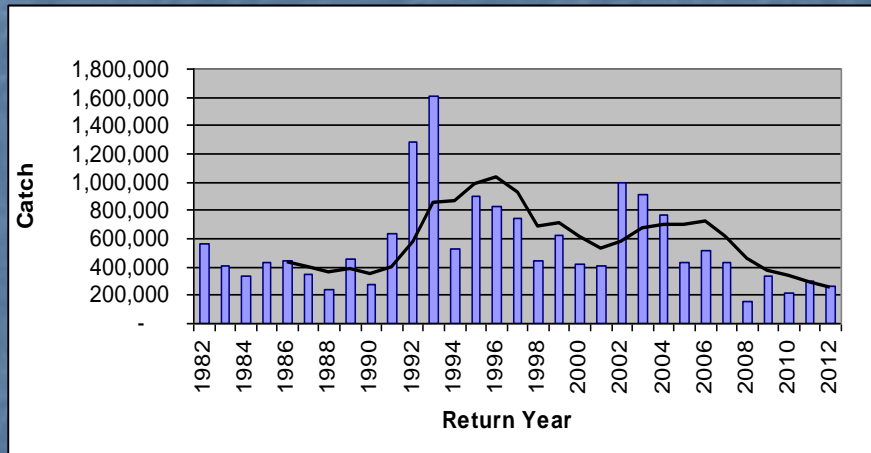
**Skeena Total Returns 1970-2012**





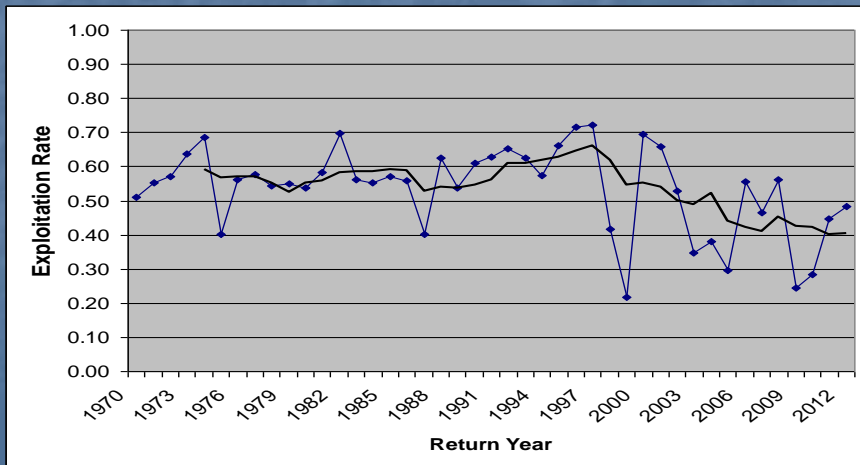
# 2012 Nass Sockeye Run Accounting

(preliminary)



Run	477000	
	Catch	Exploit.
US	63000	13.2%
Canada	113000	23.7%
Nisga'a	69000	14.5%
Gitanyow	14000	2.9%
Total	259000	54.3%
Escape.	218000	

# 2012 Skeena Sockeye Run Accounting (preliminary)

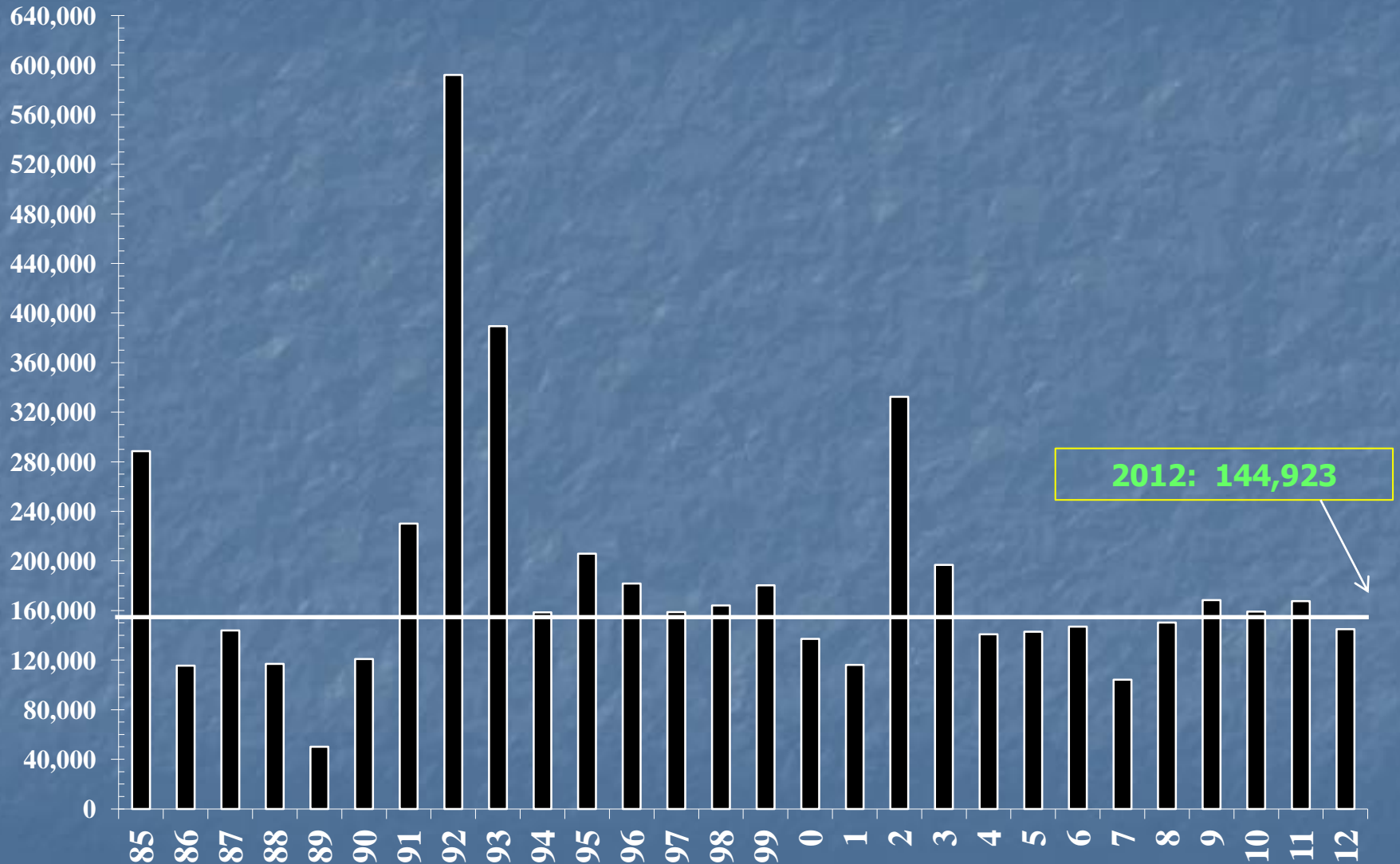


Run	2,400,000	
	Catch	Exploit.
US	120,000	5.0%
Canada 3/4/5	533,000	22.2%
InRiver Demo	115,000	4.8%
FSC	153,000	6.4%
ESSR	216,000	9.0%
Sport	25,000	1.0%
Tyee	8,000	0.3%
Total	1,170,000	48.8%
Escape.	1,230,000	



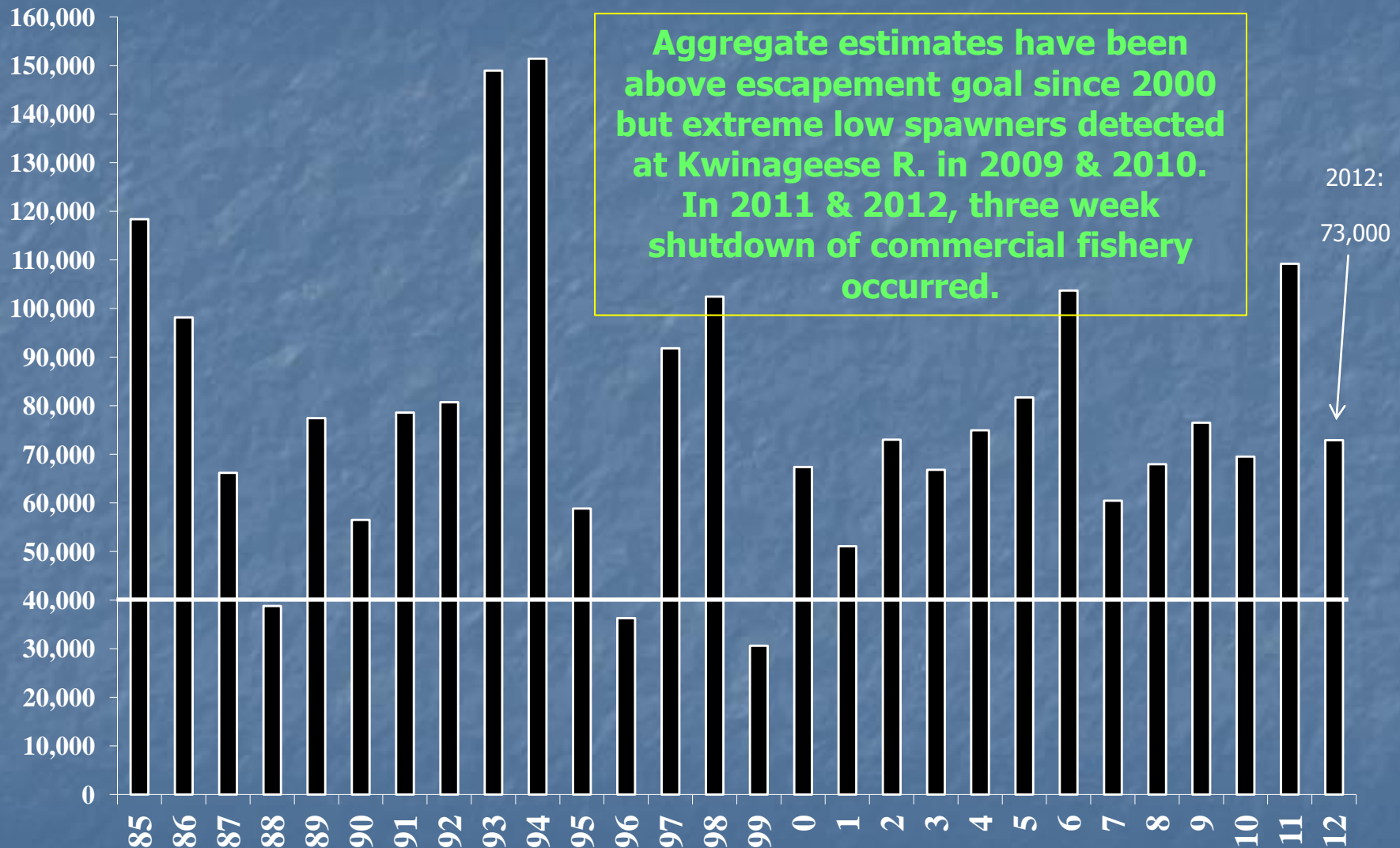
# MEZIADIN ADULT SOCKEYE RETURNS – 1985-12

(Escapement goal – 160,000)



# NON-MEZIADIN AGGREGATE ADULT SOCKEYE RETURNS -1985-12

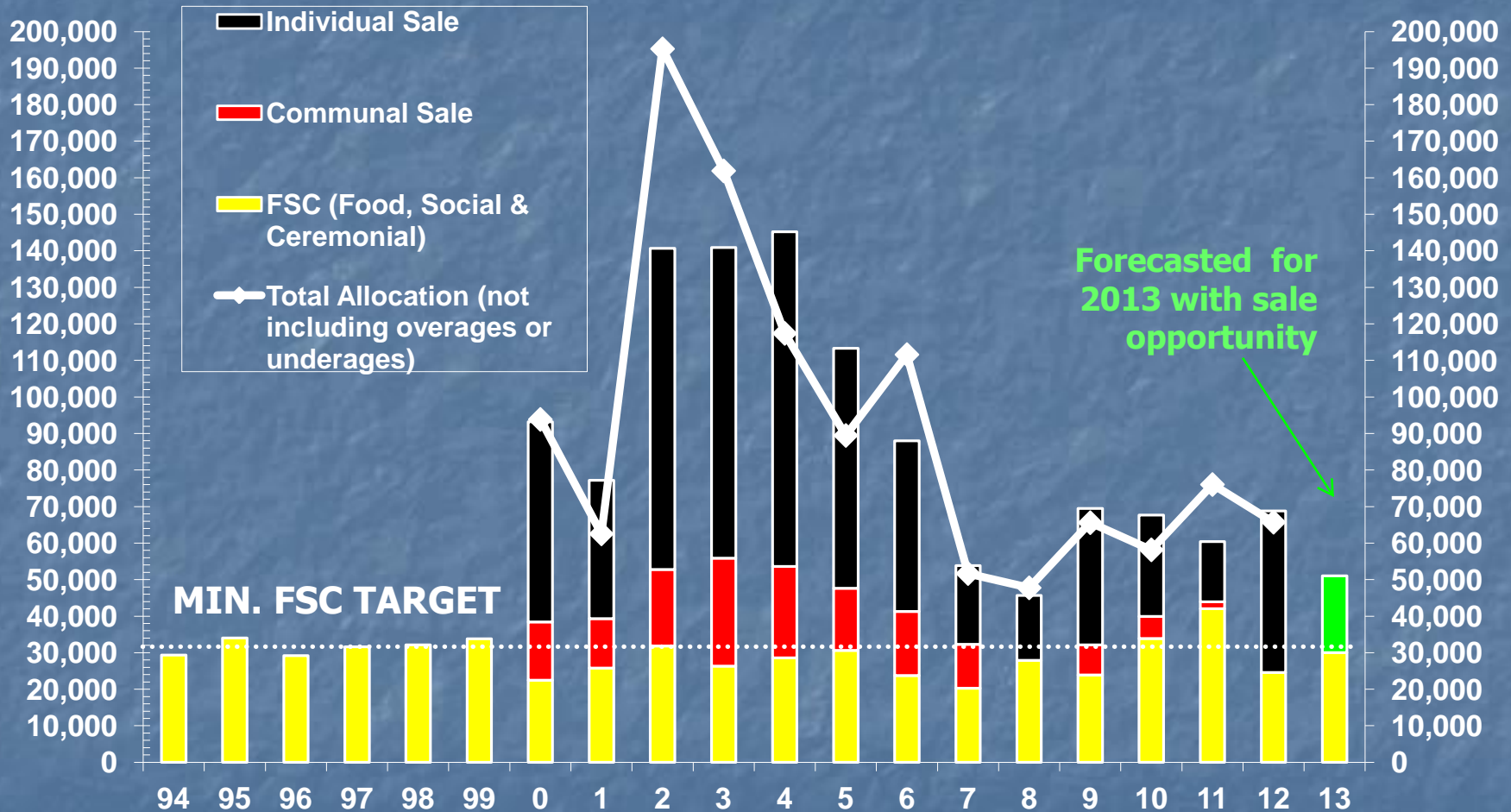
(Preliminary escapement goal – 40,000)





**NISGA'A SALMON ENTITLEMENT  
MANAGEMENT  
2000-2012**

# NISGA'A HARVESTS - SOCKEYE



Some of the underage (~5 k) from 2011 was used in 2012. About 3 k remains. Sale potential in 2013 is ~21,000 Sockeye (plus underage) based on pre-season forecasts.

# NISGA'A ENTITLEMENT FOR NASS SOCKEYE & HARVEST SUMMARY - 2000-2012

- 13 IS openings in 2012: 8 in-river and 5 marine.
- Domestic (FSC) harvest (24,644) of Sockeye in 2012 was 36% of allocation.
- IS harvest (44,195) of Sockeye in 2012 was 64% of allocation.
- Of the total IS harvest in 2012, 68% was harvested in-river and 32% was harvested in the marine fishery.
- On average, 67% of the IS catch is from in-river fisheries and 35% from marine fisheries.

[illegible]



# Nisga'a community participation in IS fisheries in 2012

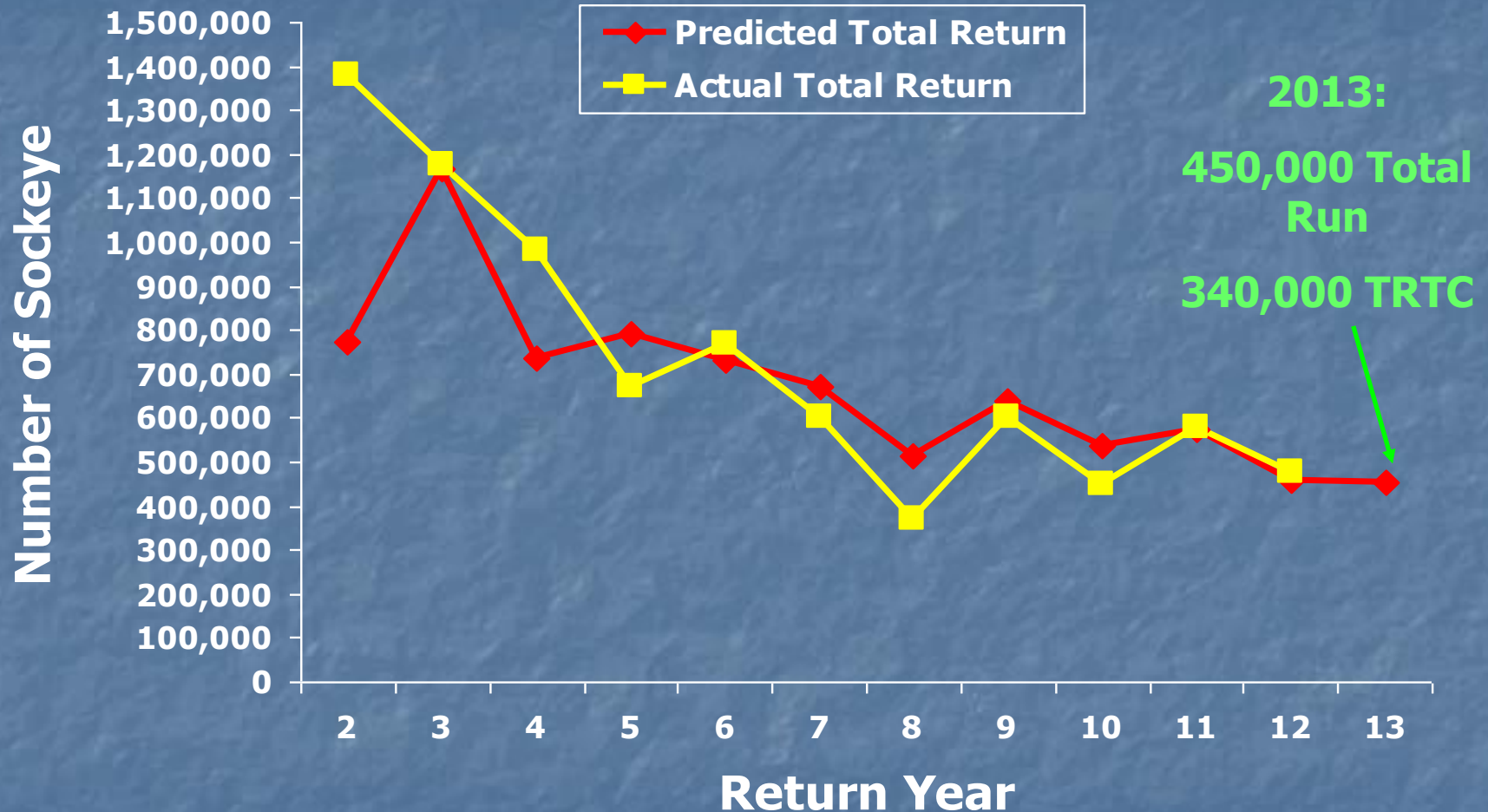
- Of the 203 permits eligible to fish in the IS fisheries, 145 permits landed fish in 2012.
- Of the 145 permits, 53 (37%) were from Gitlaxt'aamiks, 27 (19%) from Gitwinksihlkw, 20 (14%) from Laxgalts'ap, 20 (14%) from Gingolx, 20 (14%) from Prince Rupert and Terrace, and 5 (3%) from other areas.
- For the 5 marine IS fisheries, between 17 and 25 fishers participated with 38% of the fishers from Gingolx, 19% from the Prince Rupert and Terrace area, 18% from Gitlaxt'aamiks, 7% from Gitwinksihlkw, 4% from Laxgalts'ap, and 5% from other areas.
- For the 8 in-river IS fisheries, between 27 and 55 fishers participated with 44% of the fishers from Gitlaxt'aamiks, 25% from Gitwinksihlkw, 17% from Laxgalts'ap, 6% from Gingolx, 7% from the Prince Rupert and Terrace area, and 1% from other areas.

Nisga'a fishers by community in 2012 (unique permits per day)								
Dates	Gitlaxt'aamiks	Gitwinksihlkw	Laxgalts'ap	Gingolx	Prince Rupert Area	Terrace	Other	Total
<b>Marine:</b>								
21-Jun-12	4	2	1	7	5	4	2	25
8-Jul-12	2	0	1	10	2	2	0	17
9-Jul-12	4	0	1	10	2	2	1	20
22-Jul-12	4	2	0	6	3	3	1	19
23-Jul-12	4	3	1	6	4	2	1	21
<b>Total Marine</b>	<b>18</b>	<b>7</b>	<b>4</b>	<b>39</b>	<b>16</b>	<b>13</b>	<b>5</b>	<b>102</b>
<b>Marine%</b>	<b>18%</b>	<b>7%</b>	<b>4%</b>	<b>38%</b>	<b>16%</b>	<b>13%</b>	<b>5%</b>	<b>100%</b>
<b>In-river:</b>								
3-Jul-12	19	15	7	1	1	1	0	44
5-Jul-12	26	14	7	1	2	2	2	54
9-Jul-12	13	11	11	0	3	3	0	41
29-Jul-12	22	11	7	3	2	1	0	46
31-Jul-12	27	12	8	4	2	1	1	55
13-Aug-12	11	7	7	4	1	0	0	30
15-Aug-12	16	8	5	3	1	0	0	33
17-Aug-12	11	6	4	3	2	1	0	27
<b>Total In-river</b>	<b>145</b>	<b>84</b>	<b>56</b>	<b>19</b>	<b>14</b>	<b>9</b>	<b>3</b>	<b>330</b>
<b>In-river%</b>	<b>44%</b>	<b>25%</b>	<b>17%</b>	<b>6%</b>	<b>4%</b>	<b>3%</b>	<b>1%</b>	<b>100%</b>

# **Nass Salmon and Nisga'a Entitlement Forecasts for 2013**

# Nass Sockeye Salmon Total Return

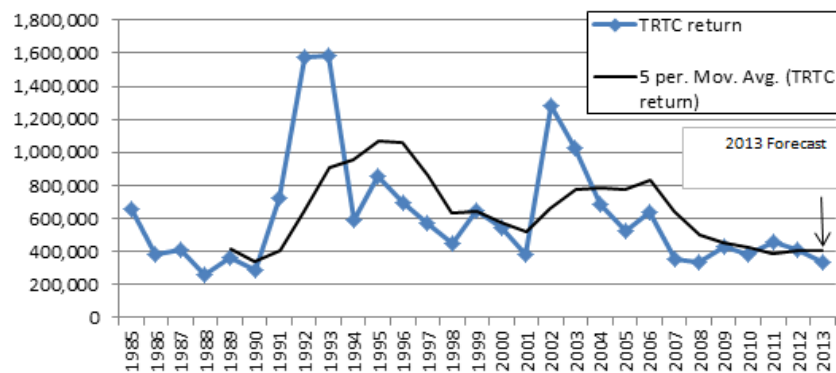
## Pre-season Forecast Predictions



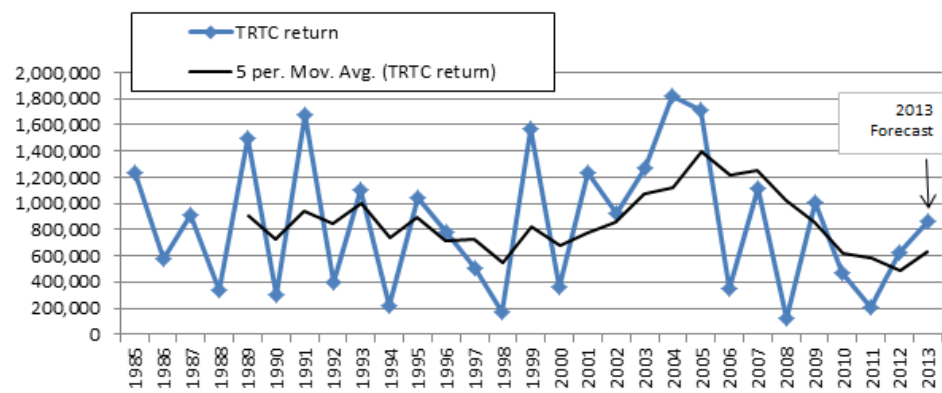
- Current forecast methods have been reliable enough for pre-season planning purposes; but reliability in future is uncertain due to unpredictable climate change effects on salmon.



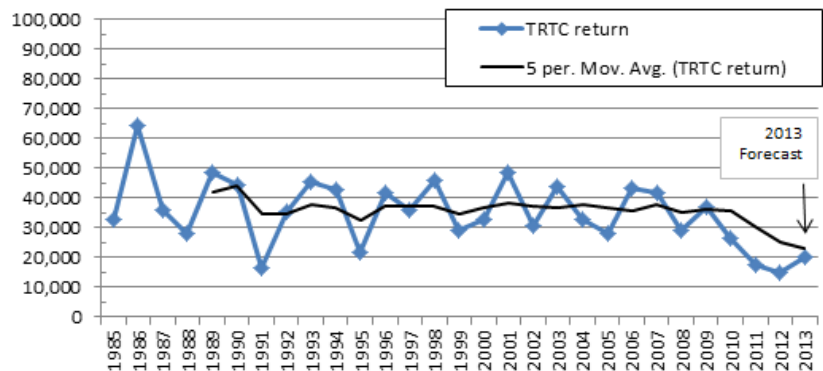
### Nass Sockeye TRTC Returns - 1985-12



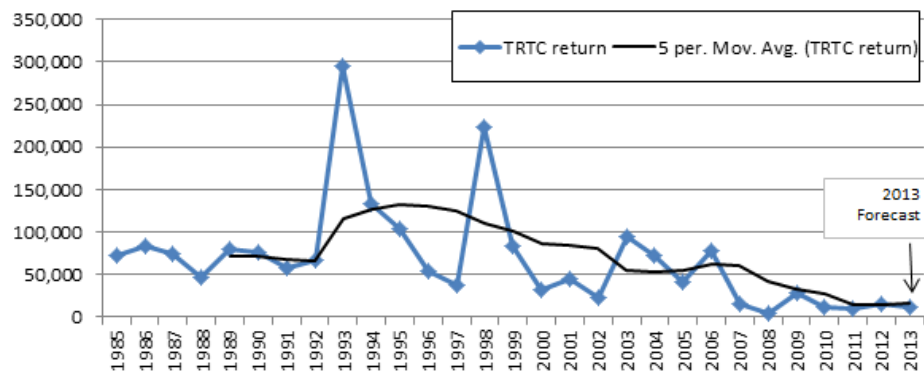
### Nass Pink TRTC Returns - 1985-12



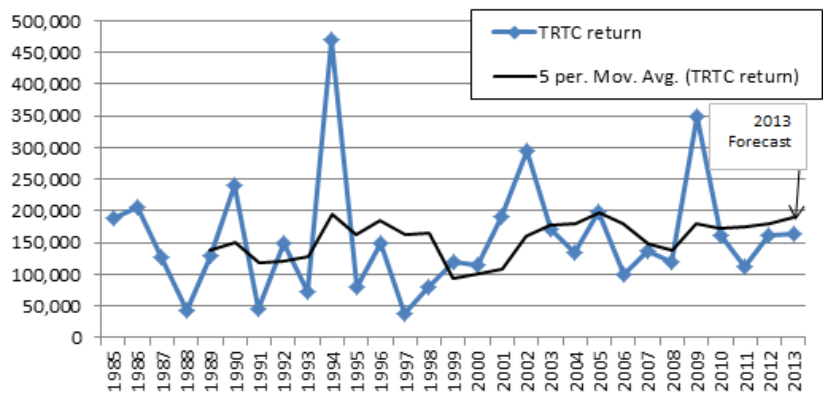
### Nass Chinook TRTC Returns - 1985-12



### Nass Chum TRTC Returns - 1985-12



### Nass Coho TRTC Returns - 1985-12



### 2013 NASS SALMON FORECASTS: TRTC AND NISGA'A ENTITLEMENT

TRTC	SOCKEYE	PINK	CHINOOK	COHO	CHUM
75% prob.	279,000	503,000	15,000	123,000	8,000
<b>50% prob.</b>	<b>339,000</b>	<b>870,000</b>	<b>20,000</b>	<b>165,000</b>	<b>12,000</b>
25% prob.	418,000	1,507,000	26,000	223,000	18,000

NISGA'A ENTITLEMEN	SOCKEYE	PINK	CHINOOK	COHO	CHUM
75% prob.	35,760	43,345	3,052	9,823	0
<b>50% prob.</b>	<b>48,760</b>	<b>101,345</b>	<b>4,052</b>	<b>12,823</b>	<b>0</b>
25% prob.	66,760	198,345	5,052	17,823	0

Cum. over (-)/under (+)	2,240	-32,345	7,948	5,177	33,283
<b>2013 Nisga'a Harvest Potential at 50% prob.</b>	<b>51,000</b>	<b>69,000</b>	<b>12,000</b>	<b>18,000</b>	<b>33,283</b>

# 2013 Skeena Forecast

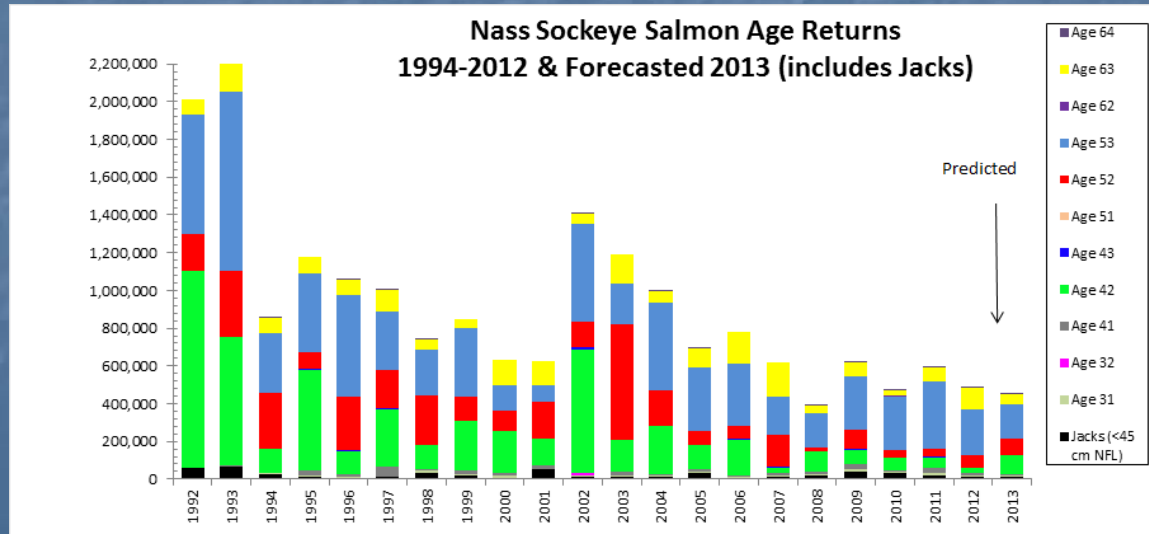
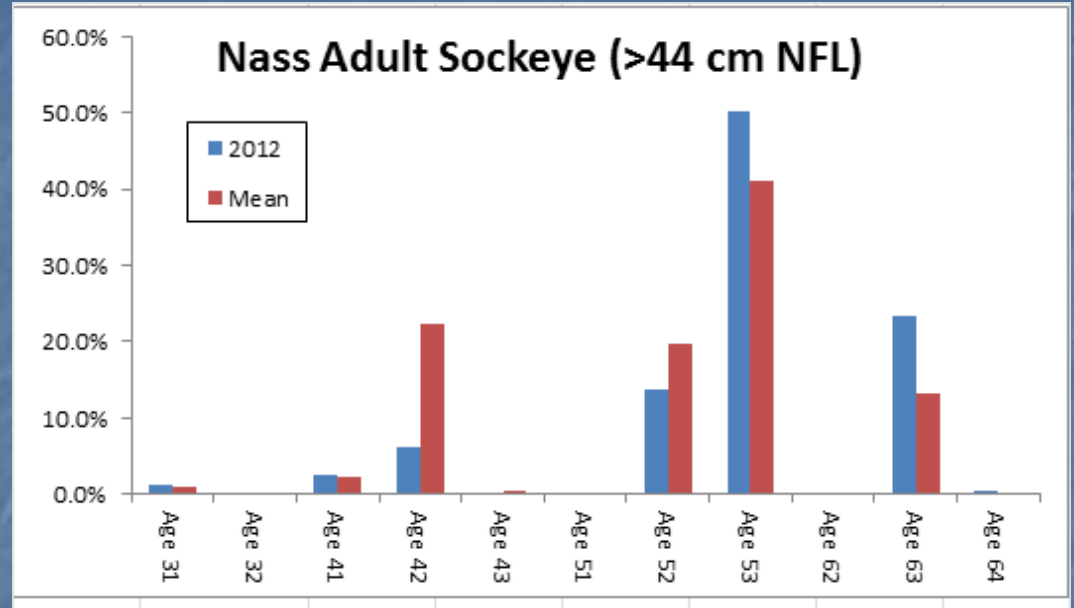
## = 685,000 sibling (total return)

### 2013 Skeena Pre-season Forecast

				2013 Forecasts for reference probabilities				
Species	Stock	Escapement Target		Median				
				10%	25%	50%	75%	90%
Sockeye	Skeena	1,050,000	5 yr average	2,882,753	2,108,915	1,574,172	1,175,019	859,601
			Sibling Mode	1,410,361	998,437	685,283	470,348	332,974

# CURRENT NASS SOCKEYE TOTAL RUN AND TRTC FORECAST MODELLING

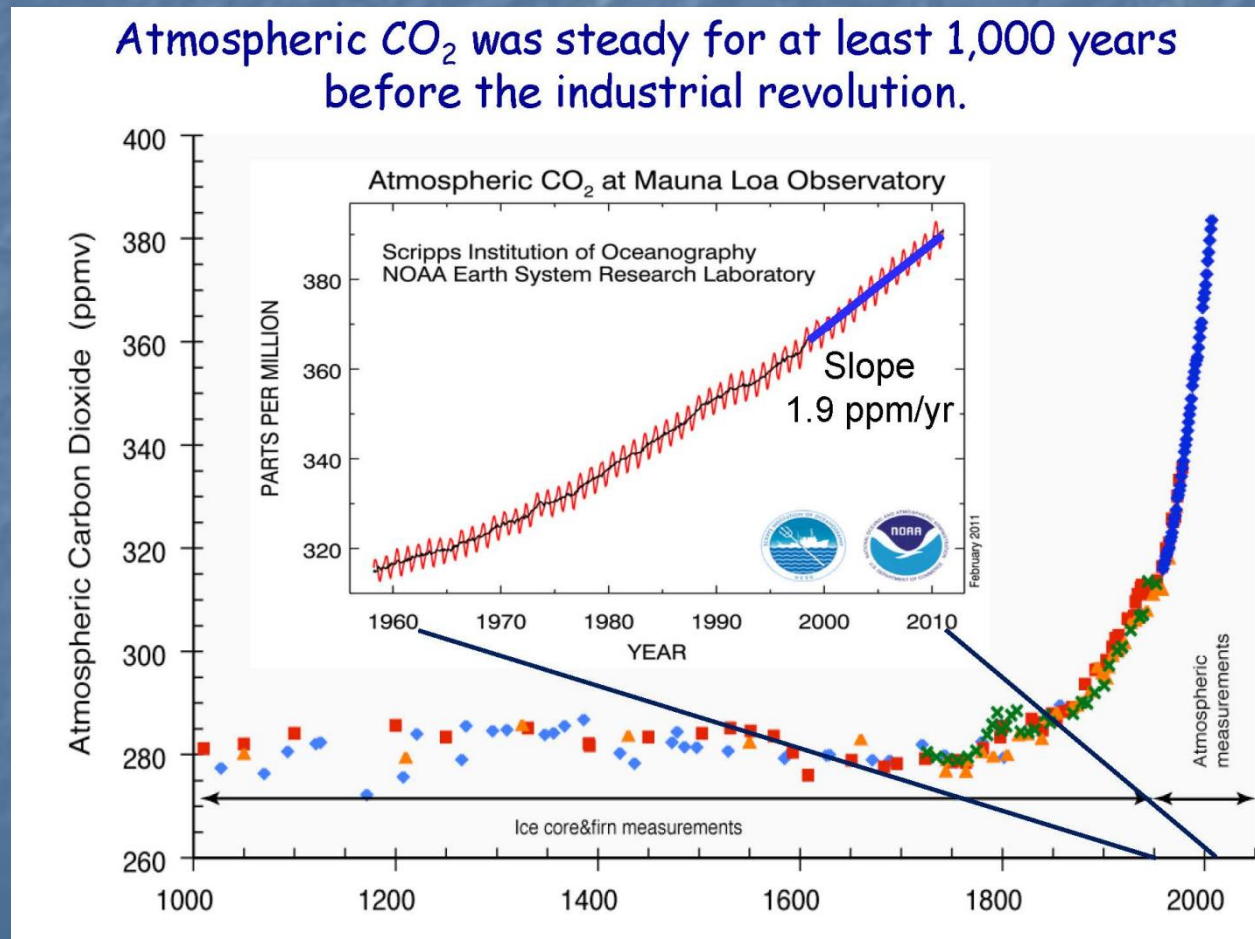
- Total Run Forecasts for Sockeye and Chinook are based on age (sibling) models.
- Other species are based on 5 year return probability models.
- 2012: mostly age 5 from BY 2007 and age 6 from BY 2006. Few age 4 from BY 2008..source of 2013 age 5 (3)
- Greater uncertainty exists in predicting returns in the future based on age relationships; because of unknown effects of climate change on salmon survival in the future.





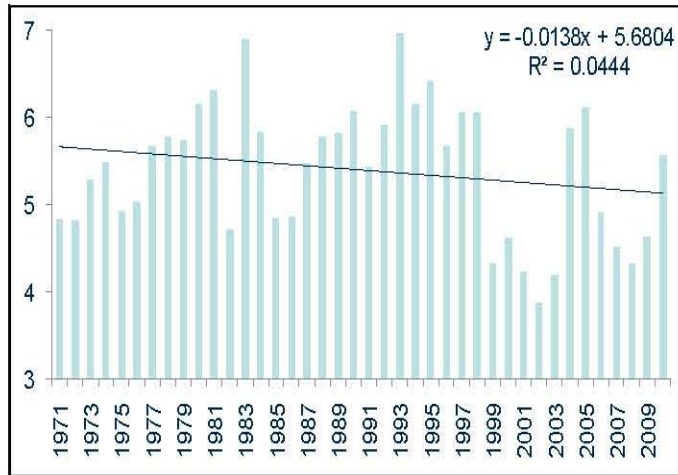
# Carbon Emissions continue to increase and changes are being detected in the marine and freshwater environments

- The 2011 emissions were the highest in human history and 54% higher than 1990 (Kyoto ref. year).
- Fossil fuel CO<sub>2</sub> and cement emissions increased by 3% in 2011.
- Coal burning was responsible for 43% of the total emissions, oil 34%, gas 18%, and cement 5%.

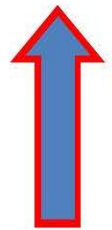
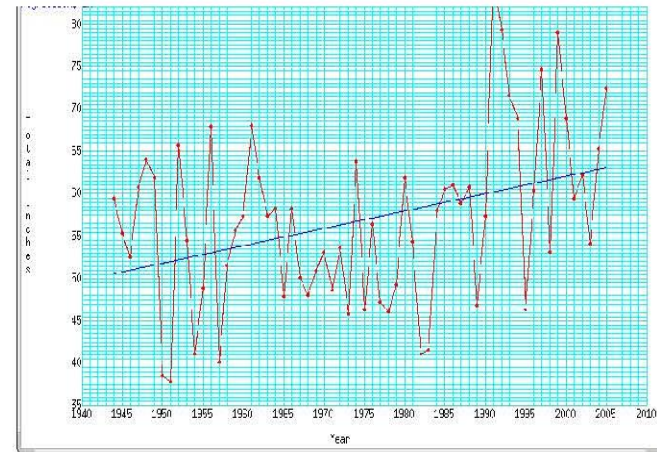


# Sea temperature and salinity data from SE Alaska show changes since 1940 and 1971

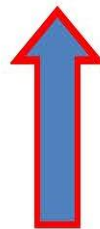
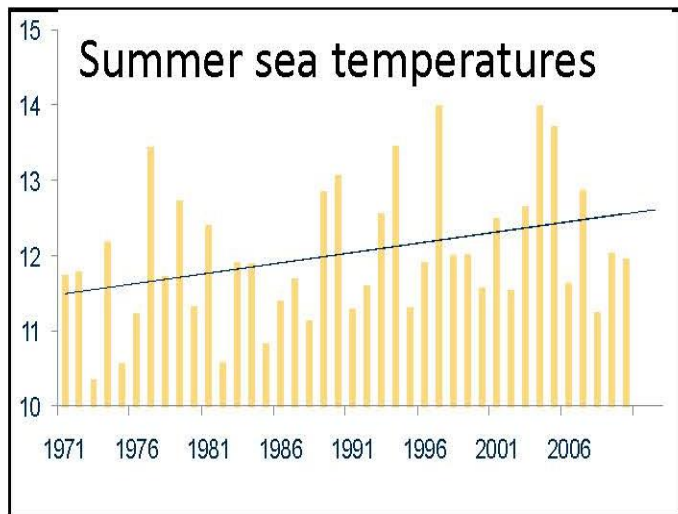
## Spring sea temperatures



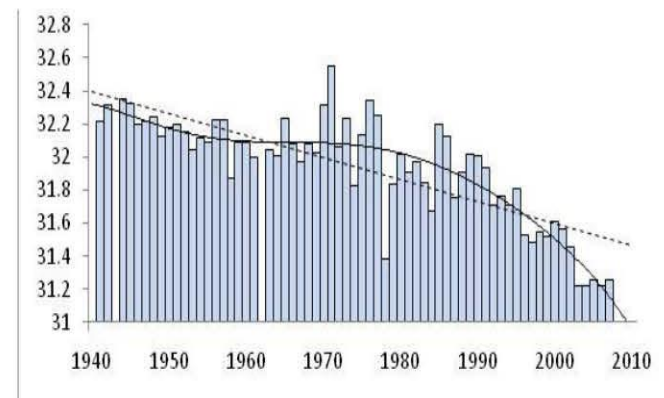
## Annual Precipitation



## Summer sea temperatures

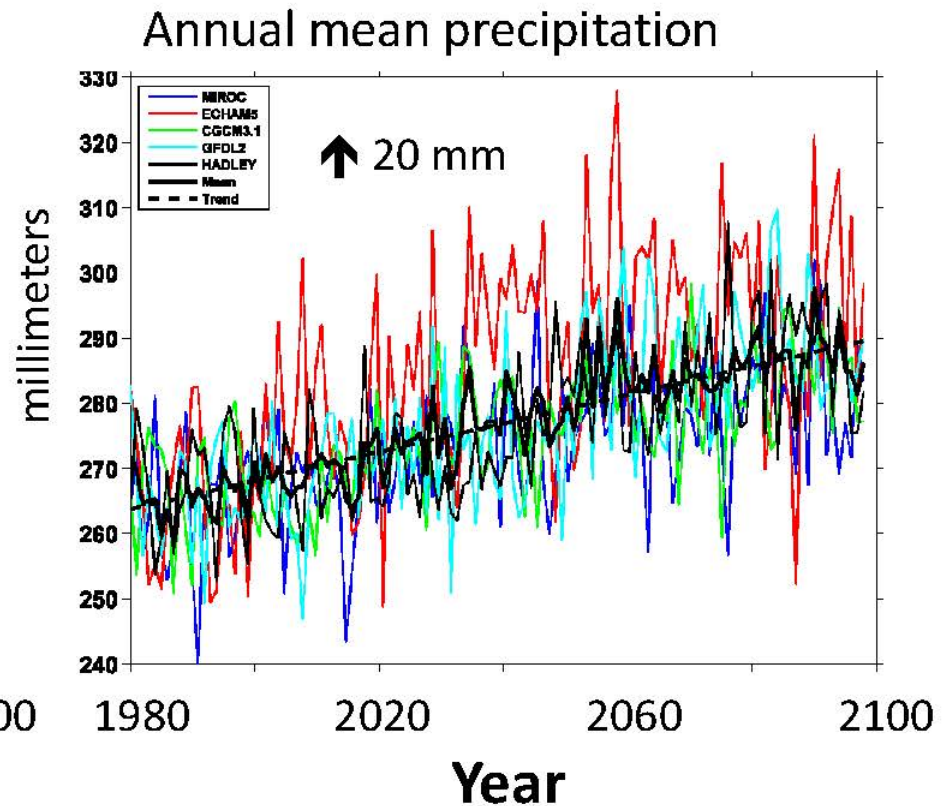
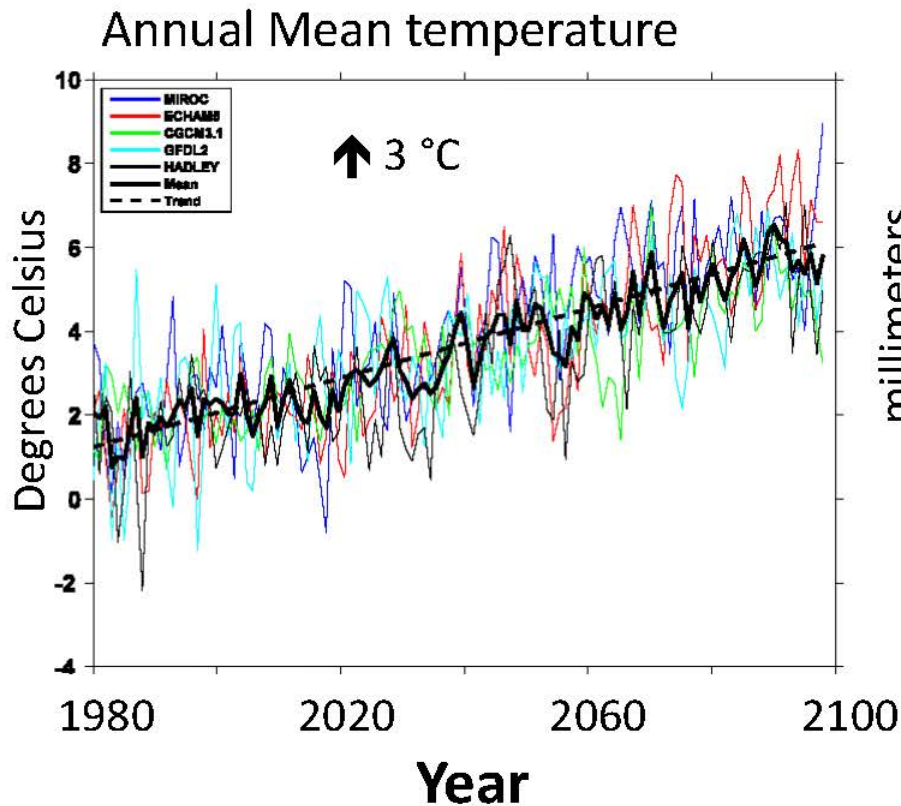


## Annual Salinity



# Projected temperature and precipitation for the Nass Watershed based on SE Alaska models

## Projected climate change in southeast Alaska: warmer & wetter



Cherry et al. 2010



# Potential timing effects to come for adult Nass salmon migration, egg incubation, and fry migration based on current data from SE Alaska

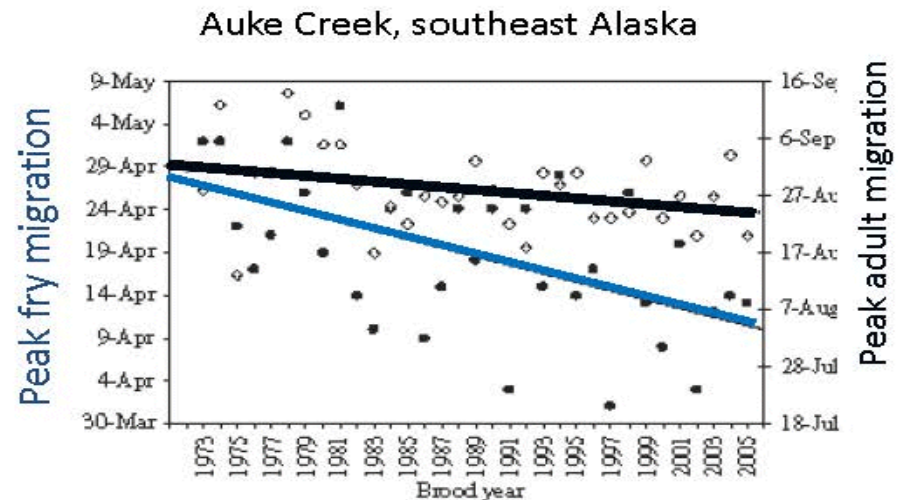
## Temperature & migration timing

**2 °C warming 1972-2005**

- Earlier adult migration
- Warmer incubation T
- Earlier fry migration

### Implications

- More time at sea
- Mismatch with spring bloom & prey



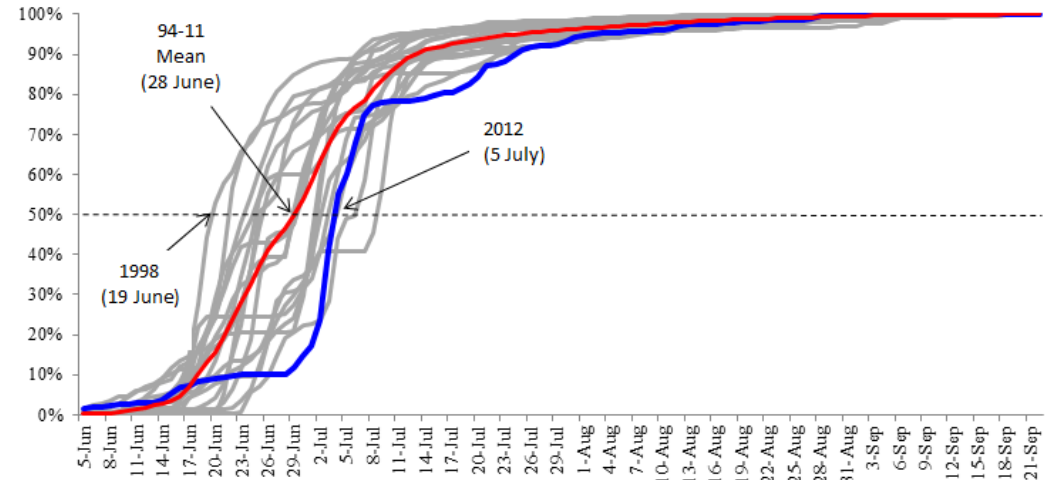
Taylor et al. 2008 Global Change Biology

Warming results in earlier outmigration from freshwater to saltwater by fry

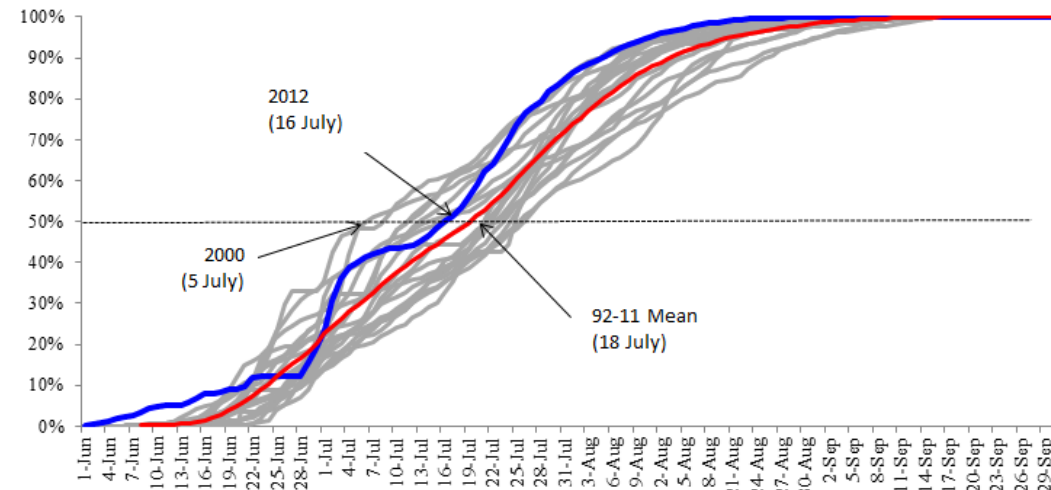
# NASS CHINOOK AND SOCKEYE RUN TIMING DATA

- Have not detected any significant changes in run timing on the Nass River for Chinook or Sockeye salmon yet
- Run timing has been mostly affected by water levels on the Nass River
- Run timing for Chinook was normal in 2012; but passage was delayed by freshet waters
- Sockeye arrived early in 2012; but passage timing was similar to mean timing after high water.

Nass Fishwheels - Adult Chinook Run Timing (94-12)



Nass Fishwheels - Adult Sockeye Run Timing (92-12)



- Unusual variations in fish have not been detected at the Nass fishwheels yet (with the exception of Steelhead in 2005 and Yellow Sockeye in 2011 and 2012)





# Highlights for 2012:

- ✓ Implemented 23 projects successfully in the 21<sup>st</sup> year of the Nisga'a Fisheries Program.
- ✓ Escapement goals met Sockeye, Coho, Pink and Steelhead; but Chum and Chinook had poor returns.
- ✓ Nisga'a entitlements achieved without over harvesting.
- ✓ Kwinageese River blockage was monitored for passage and salmon and steelhead were able to pass barrier fine in 2012.
- ✓ Maintained MSC status for Nass Sockeye in 2012 in high standing after achieving the highest overall assessment (93 out of 100) of all Pacific Region Sockeye stocks from MSC review with certification received in 2010.
- ✓ Maintained status as one of 29 Chinook stocks used to manage Pacific Region Chinook fisheries as part of the Pacific Salmon Commission's Sentinel Chinook Stock Program;
- ✓ Continued training and development of Nisga'a people in technical and biologist positions – 29 tech positions and 2 biologist/manager positions; and
- ✓ Active participation in the stewardship of the Nass River watershed to protect fisheries & wildlife resources and habitat.

# Concerns or priorities for 2013 or in the future:

- 1. Securing base level funding support to NFP to conduct core escapement programs in 2012 to protect Nass salmon returns and support contracts.**
- 2. Approach the 2013 season with extreme caution for harvesting Chinook and Sockeye given the low returns predicted for 2013 and the potential of large harvests in the Alaskan Pink seine fishery in District 104.**
- 3. Continue rebuild salmon runs to Kwinageese River for Sockeye, Chinook and Coho from blocked returns from ~2008-2010 by implementing measures to reduce harvest impacts on these stocks.**
- 4. Develop a rebuilding plan for Nass Area Chum stocks to address DFO's Wild Salmon Policy (WSP) and MSC conditions for the Nass Sockeye fishery. Minimum escapement goals have not been reached for Nass Chum since 2006.**
- 5. Continue to address WSP and MSC conditions by assessing stock status and determining biologically based escapement goals for non-Meziadin Sockeye stocks.**
- 6. Assess Dungeness Crab stock status in Nass Area before and after commercial fishery in 2013 to address concerns raised by Gingolx community.**
- 7. Continue to collect non-salmon information in the Nass Area for treaty negotiations and assessment.**