

Canadian Fall Chum Salmon Outlooks 2010



Yukon River Panel meeting, March 2010

2010 Canadian-origin Upper Yukon Fall Chum Salmon Outlook

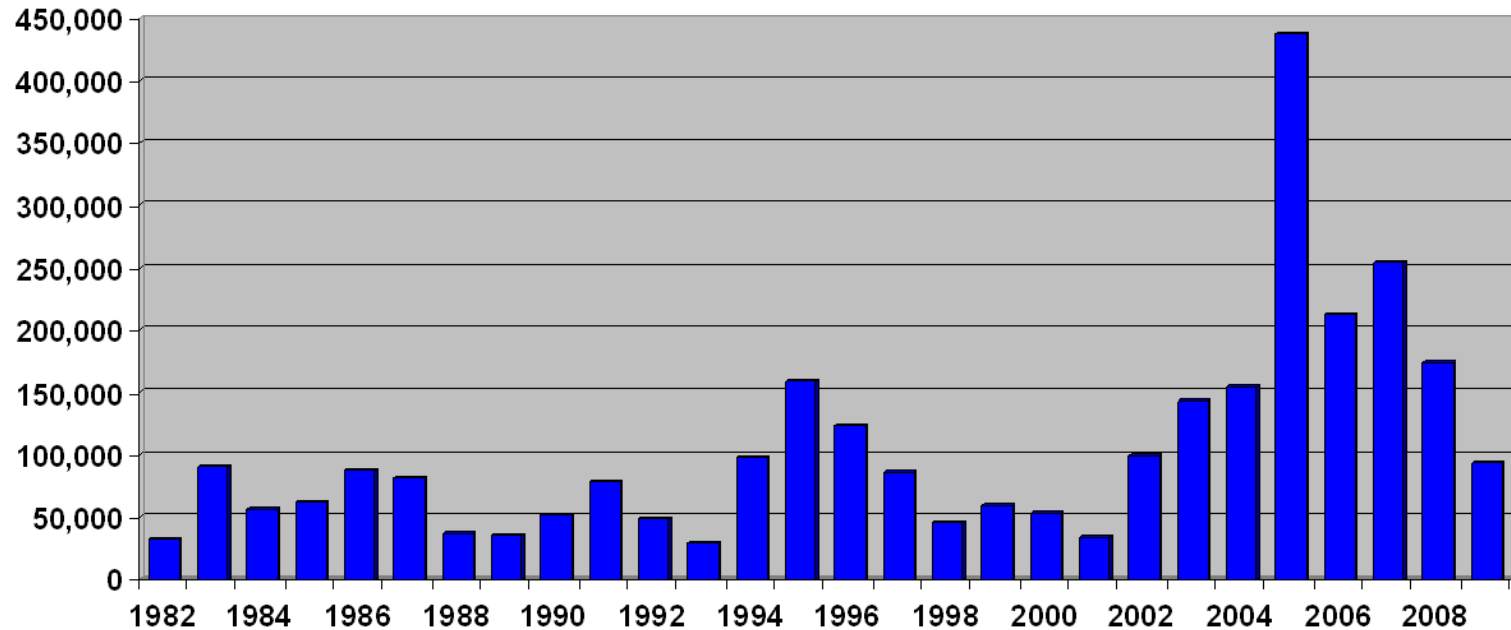
- Dominant age classes contributing to 2010 run are age-4 and age-5 fish:

Brood Year	Escapement	Age	Avg. Even Year Age Structure
2004	154,080	6	1.1%
2005	437,498	5	46.2%
2006	211,994	4	52.0%
2007	254,649	3	0.8%

- Weighted (by age) average BY escapement contributing to the 2010 return is 325,000 fish
- For comparison, average escapement for 1998-2009 was 202,000
- 4-year olds comprise ~52% of even-year return

Canadian-origin Upper Yukon Fall Chum Salmon Escapement

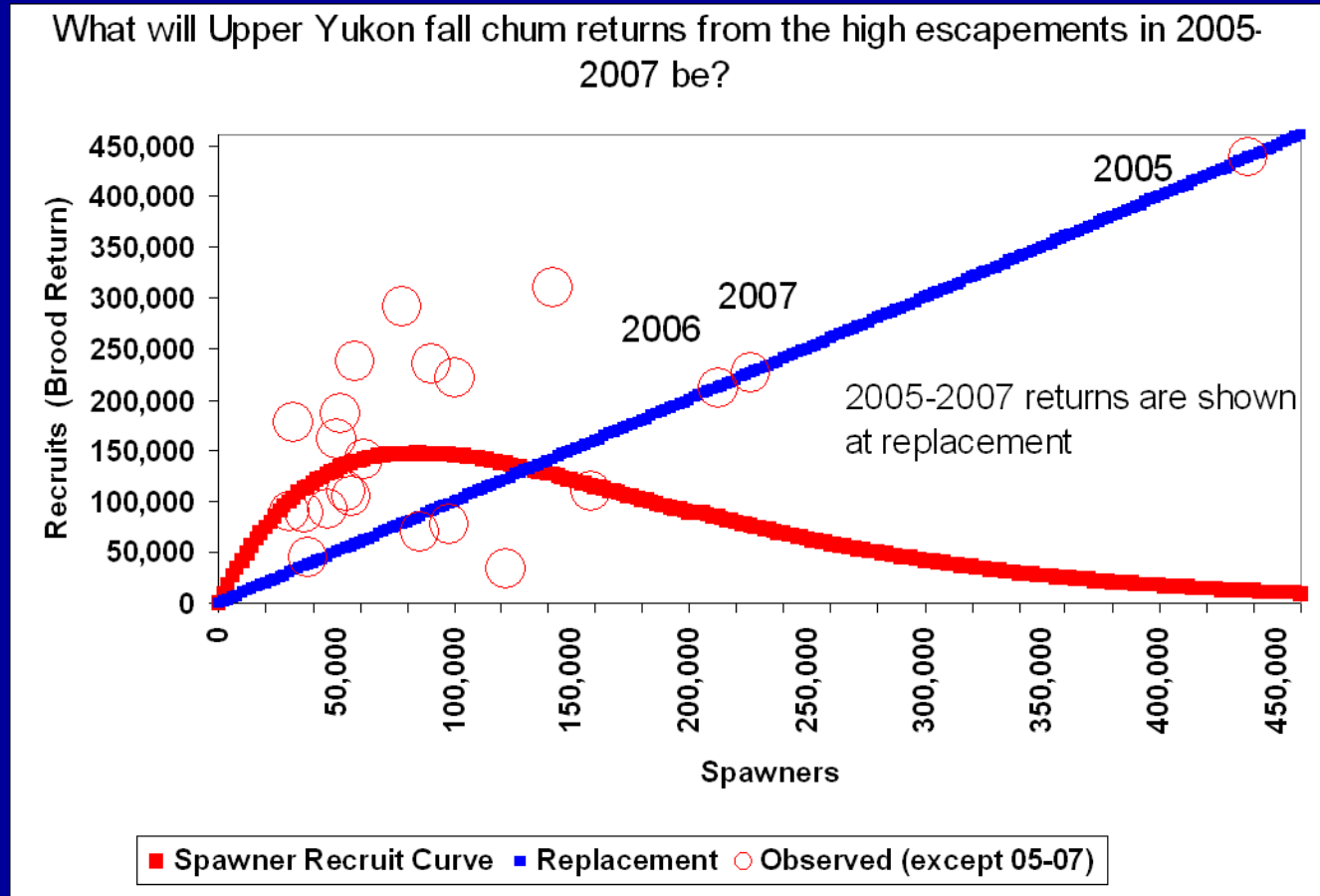
Estimated Escapement of Upper Yukon River fall chum salmon:
1982-2009



■ Escapement Estimates (based on tagging prior to 2006)

In 2009, poor production was expected from the 2005 escapement based on a spawner-recruitment model

Returns from high escapements within 2005-07 period are outside our experience

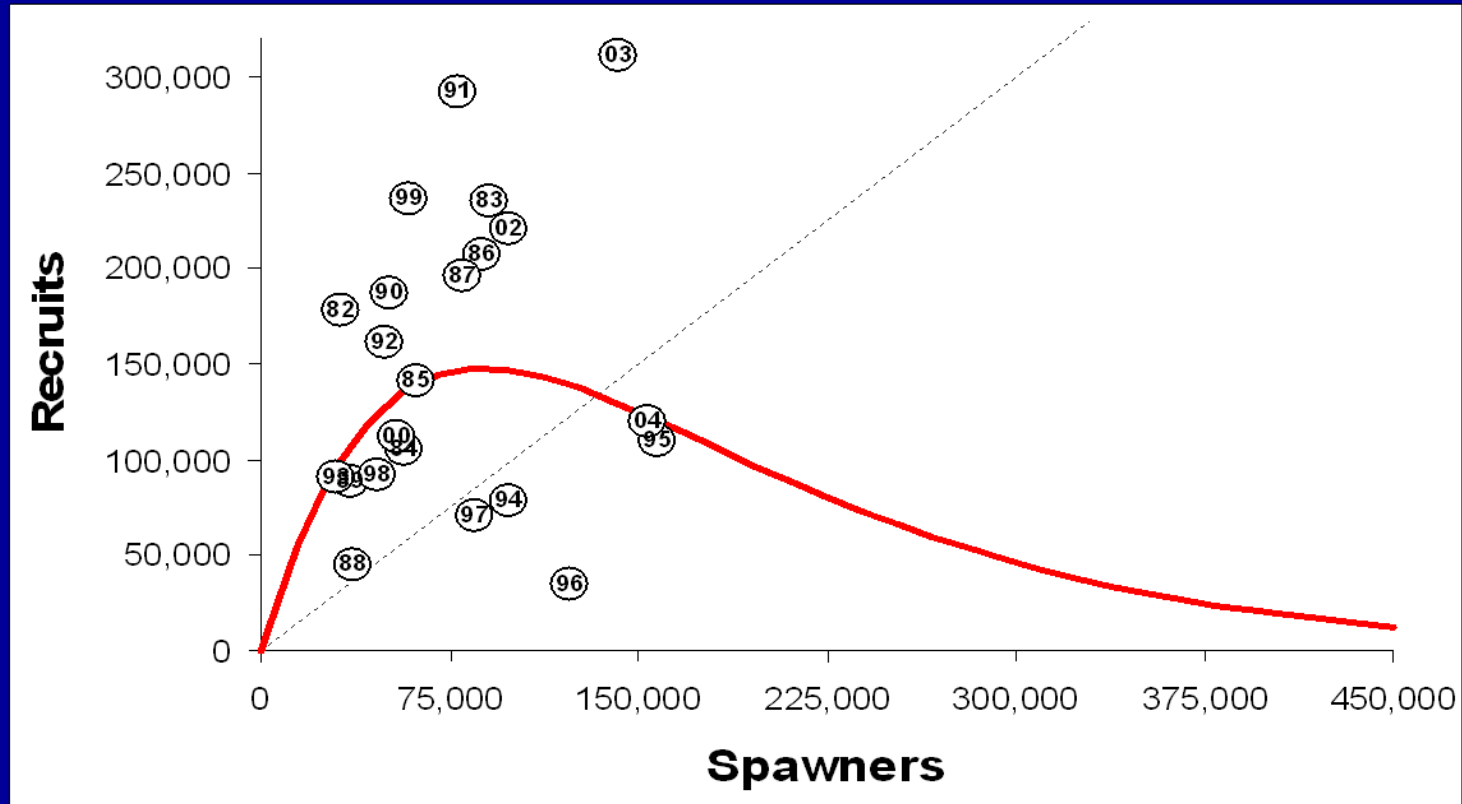


2010 Upper Yukon Fall Chum Salmon Outlook

- Was difficult to develop the 2010 outlook
- There is still considerable uncertainty associated with the return of 5-year of fish from the record high escapement in 2005
- Spawner-recruitment model suggests the return from 2005 escapement will be well below replacement
 - However, we have one year's experience with the high escapement observed in 2005
 - escapements in 2006 and 2007 were higher than previously observed

Upper Yukon Fall Chum

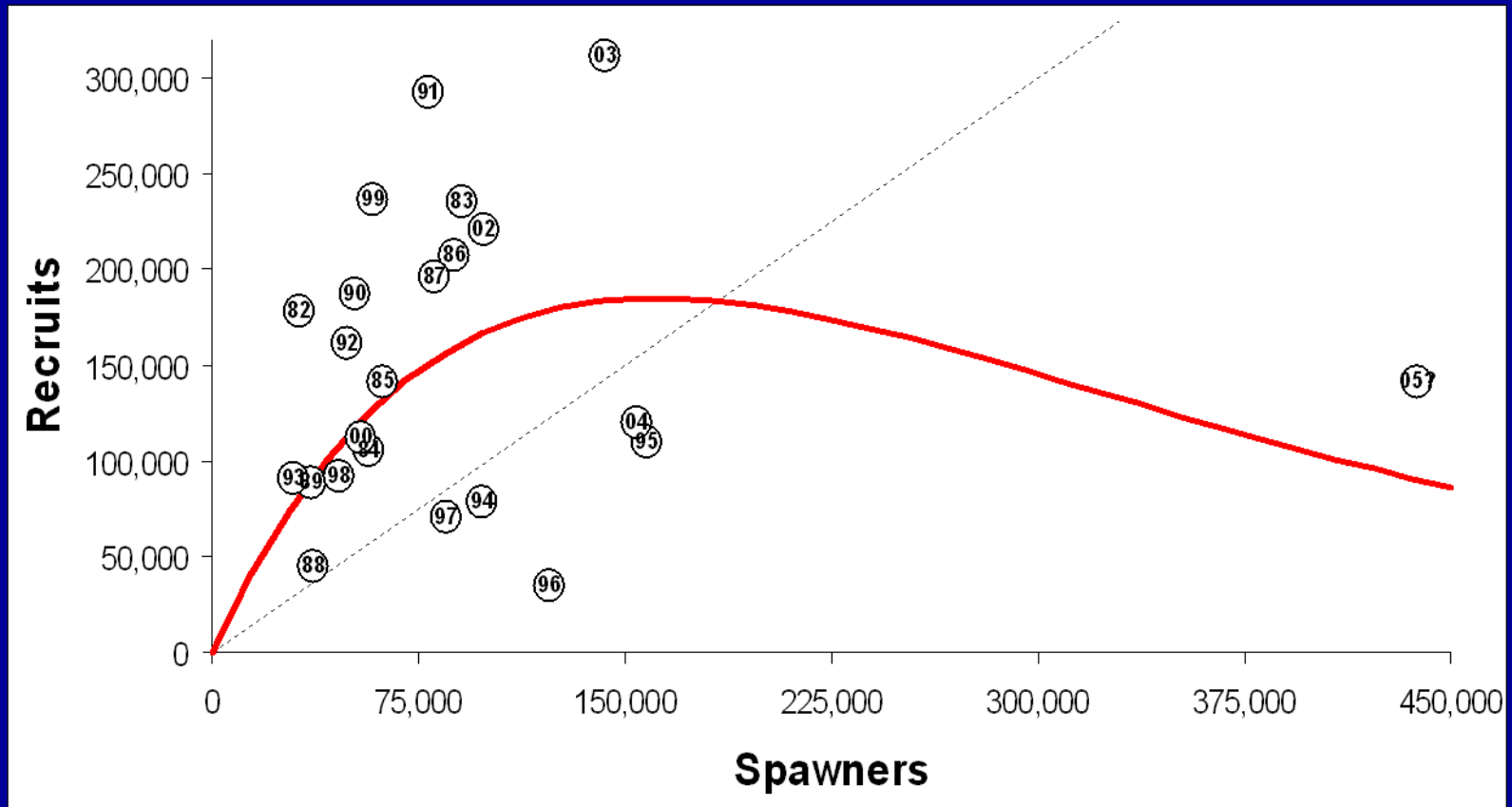
1982-2004 Smsy ~57,000



Upper Yukon Fall Chum

based on returns from 1982-05 brood years (2005 recruits estimated)

Smsy 86,700



2010 Canadian-origin upper Yukon Fall Chum Salmon Outlook

- 2010 outlook range is a below average to average run of **136,900 to 207,000**
- How 2010 outlook was developed
 - ADF&G drainage-wide outlook is 552,000 to 828,000
 - upper Yukon component likely 25% of this range
 - 2004-09 avg. is 25% (range 21%-29%) based on genetic analyses
 - this results in range from **138,000-207,000**
 - S/R outlook using 1982-05 Brood Year returns with extrapolated 2005 BY data is **136,900**

2010 upper Yukon Fall Chum Escapement Goal

- Longstanding Upper Yukon escapement goal has been **>80,000**
- JTC is recommending the Yukon Panel adopt an IMEG range of **70,000 to 104,000** for 2010
 - this range is 0.8 to 1.2 of the S_{msy} value of **86,700** developed from S/R data including extrapolated returns from the 2005 Brood Year

2010 Upper Yukon fall chum outlooks, TAC, and harvest sharing based on proposed escapement target range of 70,000-104,000

Escapement Target	Expected Run Size	TAC	CDN Share @32%	U.S. Share
70,000	137,000	67,000	21,000	46,000
70,000	172,000	102,000	33,000	69,000
70,000	207,000	137,000*	47,000	90,000
104,000	137,000	33,000	11,000	22,000
104,000	172,000	68,000	22,000	46,000
104,000	207,000	103,000	33,000	70,000

* CDN share of TAC is 29-35% (mid-point 32%) for TAC up to 120,000 and 50% of TAC above 120,000

Canadian Fisheries Management

- Uncertainly associated with the 2010 Upper Yukon fall chum outlook
- Inseason assessment programs will determine actual run strength
- Appropriate management actions will ensure conservation (70,000-104,000 IMEG) and harvest sharing objectives are achieved
- Eagle sonar program will be used for third year to determine chum escapement into Canada
- Decision matrix within the Integrated Fisheries Management Plan (IFMP) will provide detailed guidance for specific inseason run abundance levels

2010 Fishing Branch Fall Chum Salmon Outlook

- Base level escapement for 2010 run is 74,900
- 2005 escapement was very high (119,058)
- Dominant age classes contributing to 2010 run are age-4 and age-5 fish:

Brood Year	Escapement	Age	Avg. Even Year Age Structure
2004	20,417	6	1.8%
2005	119,058	5	48.2%
2006	30,954	4	48.4%
2007	32,150	3	1.6%

2010 Canadian-origin Fishing Branch Fall Chum Salmon Outlook

- Similar to upper Yukon, applied anticipated Fishing Branch contribution to drainage-wide outlook of 552,000-828,000
 - Assumed Fishing Branch run will be 5% of the drainage-wide total
- 2010 Fishing Branch outlook range is from 27,600 to 41,400 fall chum salmon
 - this is well below replacement
 - little room for harvest with escapement goal of 22,000-49,000
 - Conservation is a priority
- 2009 Fishing Branch outlook was 30,000 to 49,000
 - actual return size estimated at 32,300
 - weir count estimated at 25,828

2010 Fishing Branch outlooks and harvest sharing (based on lower and mid-point of IMEG range of 22,000-49,000)

Escapement Point Target	IMEG Target	Expected Run Size	TAC
Lower	22,000	27,600	5,600
Lower	22,000	34,500	12,500
Lower	22,000	41,400	19,400

Escapement Point Target	IMEG Target	Expected Run Size	TAC
Mid-Range	35,500	27,600	
Mid-Range	35,500	34,500	
Mid-Range	35,500	41,400	5,900

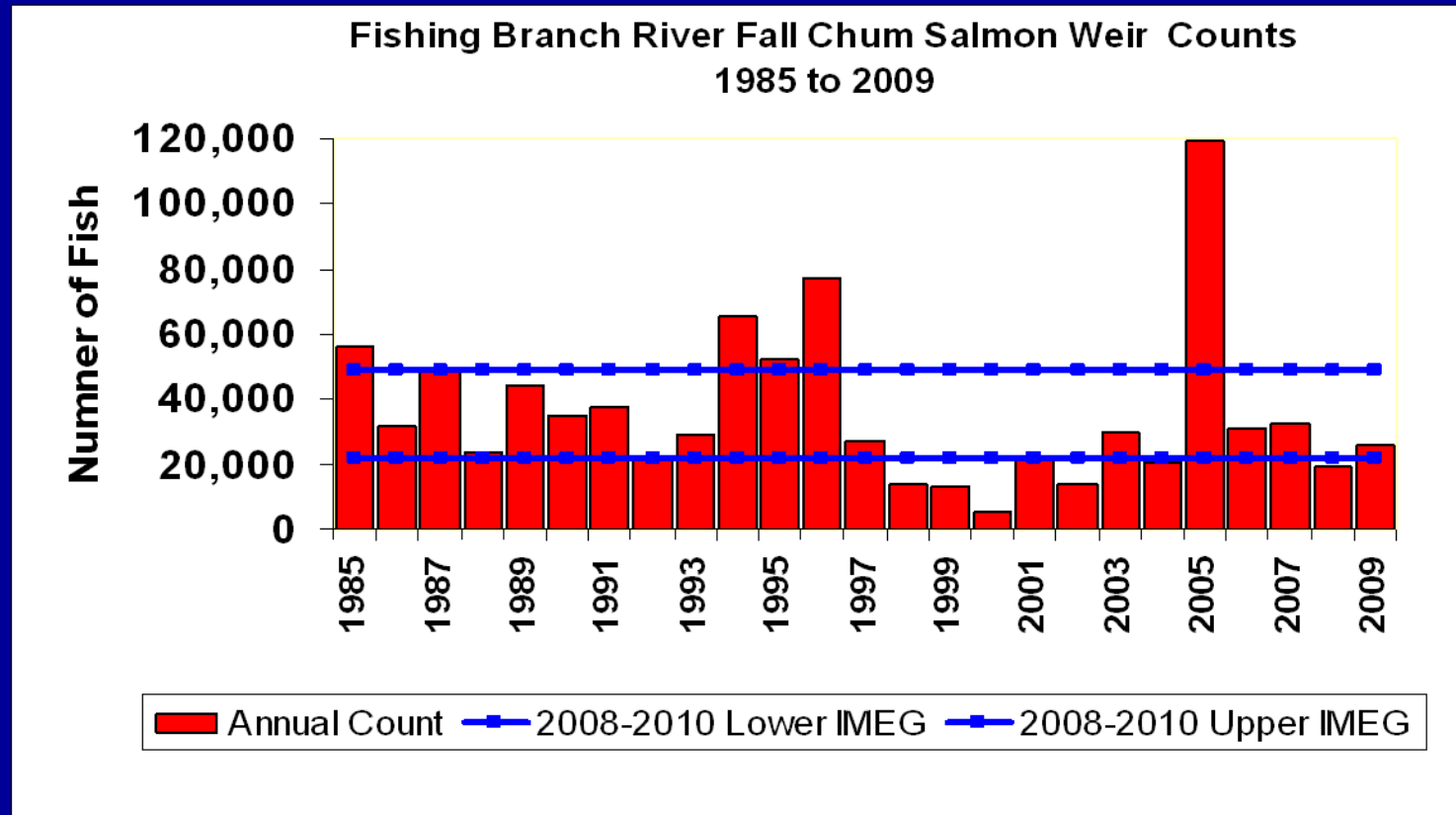
- Note: 1/ conservation is a priority
2/ the VGG has a basic needs level of 6,000 which is embedded in their land claims agreement with Canada

Canadian Fisheries Management

- Uncertainly associated with the 2010 Fishing Branch fall chum salmon outlook
 - Inseason assessment programs will determine the actual run strength
 - Appropriate management actions will be taken to ensure conservation (22,000-49,000 escapement goal) is achieved
 - Decision matrix within the Integrated Fisheries Management Plan (IFMP) will provide detailed guidance for specific in-season run abundance levels

Fishing Branch Weir counts for 2005-2009

Yukon Panel adopted IMEG of 22,000-49,000 for 2008 to 2010 period



Assessment has been based on a weir program
Sonar program in the future?



Fishing Branch Discussion Items

- Inseason assessment at Pilot Station involves USF&WS genetic mixed stock analyses
 - This analyses has under-represented Fishing Branch run size
- Porcupine CPUE Index program near Old Crow underestimated 2009 run size
- Relationship for recent years between Sheenjek sonar and Fishing Branch weir has merit
- High cost of a Porcupine sonar program

The End

