

## BONAPARTE RIVER FISHWAY



Harvesting chinook in a selective, terminal and responsible fishery



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## Terminal selective fishing



OR....

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## Combine stock assessment goals with harvest goals

- Fences
- Fishwheels
- Fishways

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## Bonaparte Fishway - History

- Built in 1989  
Ministry of Environment Lands and Parks (MELP) Fisheries and Oceans Canada (FOC).  
Funding through SEP/HCTF
- Facilitates access to over 140 km of mainstem and numerous tributaries.



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## Bonaparte Fishway – Location



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## Species enumerated through the Bonaparte Fishway



Chinook



Steelhead



Coho

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## Operation of the Fishway and migration timing of salmonids

### Operators of Fishway

Ministry of Environment Lands and Parks

Steelhead (3 months)

Bonaparte Indian Band

Chinook (4 months)

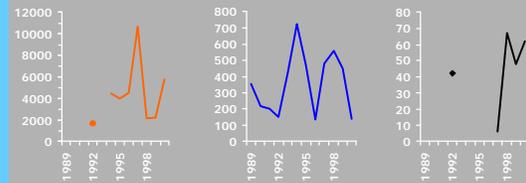
Coho (2.5 months)



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## Escapement History



Chinook  
(1,659–10,637)

Steelhead  
(135–720)

Coho  
(6–67)

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## Bonaparte Band & the Fishway – Involvement and Funding

- Provides a technician to assist in steelhead enumeration.  
Funded by MELP  
- HCTF funds
- Administers and operates the fishway for chinook and coho enumeration.  
Chinook enumeration  
- AFS funds  
Coho enumeration  
- No steady source, (HRSEP, Fish Renewal B.C., AFS)

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## Bonaparte Band & the Fishway – Goals and Objectives

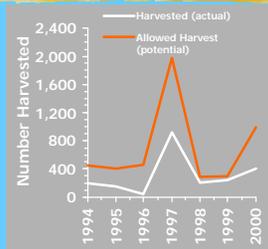


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## Bonaparte Fishway - Harvest History

- Harvesting since 1994  
Max – 927 / Min - 41
- Selective Harvest  
Hatchery Ch. (pre 96)  
Male Ch. (post 97)
- Scaled Harvest  
0% when < 500  
10% 500-1500  
20% of escapement over 1500

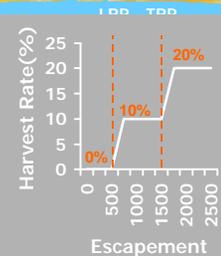


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## Bonaparte Fishway – Scaling the harvest to meet the escapement

- Number of chinook harvested depends upon size of return
- Harvests do not begin until 500 chinook passed thru fishway  
Lower Limit Reference Point (LRP)
- Maximum harvest = 20% of escapement over 1,500  
Target Reference Point (TRP)



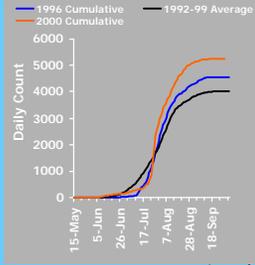
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## Bonaparte Fishway – Timing the harvest to the escapement

- Use past year cumulative counts to plan current year

In 2000, cumulative curve exceeded both brood year (1996) and long term average (1992-99) cumulative curves



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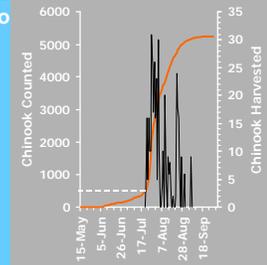
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## Bonaparte Fishway – Timing the harvest to the escapement

- Use in-season counts to determine harvestable fish

monitoring daily count of chinook through fishway determines:

**when to harvest**  
**how many to harvest**



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## Bonaparte Fishway – Select for quality, sex, species.

Live capture allows for “selectivity” since fish can be released live.

Select for:

- Quality
- Species
- Hatchery produced fish
- Sex
- Etc.



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## Bonaparte Fishway – Harvest Summary - 1994 to 2000

Year	Total Counted	Harvested (Actual)	Harvests by Sex			Harvest by Total Escapement			
			Males	% of Total Harvest	Females	% of Total Harvest	Actual %	Allowed (potential) harvest	Allowed %
1994	4,408	199	97	49%	102	51%	4.5%	441	10.0%
1995	4,020	147	83	56%	64	44%	3.7%	402	10.0%
1996	4,545	41	23	56%	18	44%	0.9%	455	10.0%
1997	10,637	927	905	98%	22	2%	8.7%	1,977	18.6%
1998	2,151	202	200	99%	2	1%	9.4%	280	13.0%
1999	2,205	244	200	82%	44	18%	11.1%	291	13.2%
2000	5,780	411	342	83%	69	17%	7.1%	1,006	17.4%
<b>TOTAL:</b>	<b>25,761</b>	<b>1,760</b>	<b>1,508</b>	<b>86%</b>	<b>252</b>	<b>14%</b>	<b>6.8%</b>	<b>3,846</b>	<b>14.9%</b>

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## Keys to successful harvest – What has been learned from the Bonaparte

Harvest groups of fish

Don't harvest single fish, but groups of fish based upon reaching escapement plateaus

Harvest early in the migration

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## Keys to successful harvest – What has been learned from the Bonaparte

Ensure community involvement

People who want fish should be prepared to come to the facility to get them and clean them.

Technicians operating counting fences are too busy to harvest and clean fish, and should not be expected to distribute harvested fish either.

Count your catch

Technicians operating fishway should count and report harvests.

Monitoring harvests at enumeration facilities is easily completed and accurate records facilitates good public relations.

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## Bonaparte Fishway – The future

Presently proposals being submitted by MELP to install electronic fish counter.

"Logie counter" also known as "resistivity counter".



Allows free passage of fish through the fishway while still enabling an escapement estimate.

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## Bonaparte Fishway – The future

MELP proposal will require redesign of the fishway.

Unfortunately, it is unknown how the redesign of the fishway may effect its ability to capture fish.

no one can assure the Band that their fishery will be unaffected.

Potential exists that the Bonaparte Band's selective fishery may be adversely impacted if fish can not be captured as effectively as they are now.

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## Conclusion – Developing a selective fishery

Not all Bands have the same opportunity to develop terminal fisheries

Bonaparte Band is fortunate in that a facility like the fishway is located in their traditional territory.

Bonaparte Band did, however, develop their opportunity.

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## Conclusion – Developing a selective fishery

Identify an opportunity /need.

Determine a location where mutual goals of harvesting and stock assessment can be combined.

Consider:

Quality and quantity of target species.

Ability to harvest selectively.

can a fence or other live capture device be employed?

Funding source.

Someone willing to pay for stock assessment?

Combine more than one objective.

Enumeration, harvest, education etc.

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