

Evaluation of Rainbow Trout stocking in three Hubbard County stream-trout lakes

Calub Shavlik

MN DNR Fisheries - Park Rapids



Introduction



- Rainbow Trout stocking since 1960 with various strains
 - Arlee, Donaldson, Fish Lake, Madison, Wyoming and Wytheville
- In 1998, stocked annually with Arlee strain fingerlings

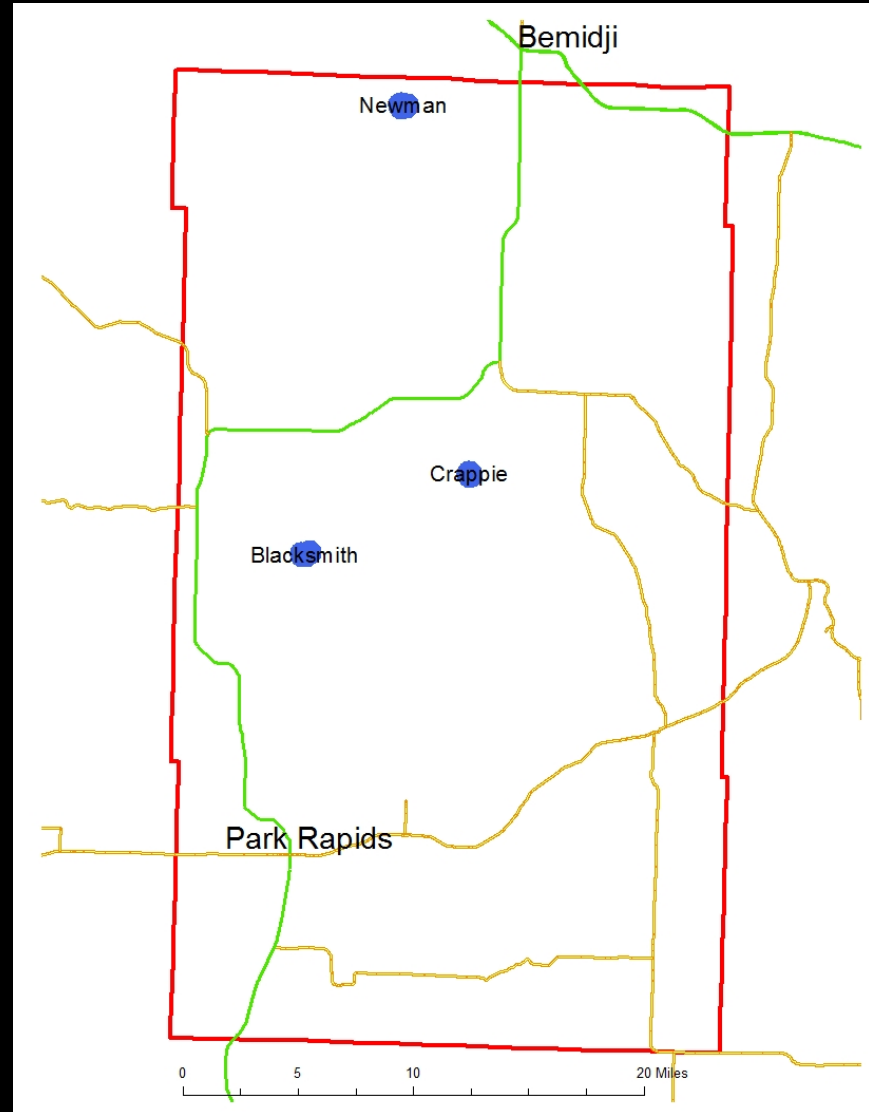
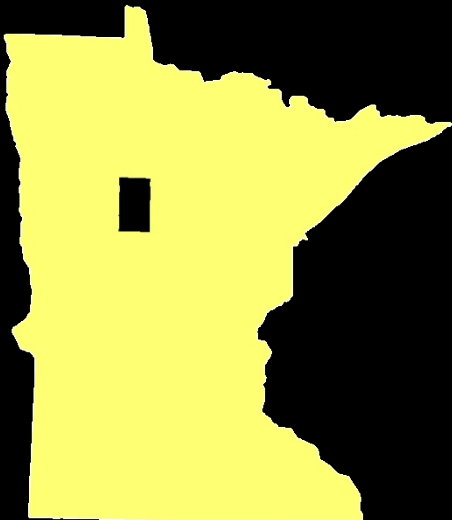


- In 2012, annual stocking were split between Arlee and Kamloops fingerlings



Study area

- Blacksmith
 - 38.5 acres
- Crappie
 - 23 acres
- Newman
 - 45 acres



Methods

- Fish population
 - Stocking (mid-Oct)
 - Length and weight



Methods

- Fish population
 - Summer survey
 - 2 gill nets / 5 trap nets –
 - Length, weight, strain and scales



Methods

- Zooplankton
 - Monthly (May – Oct)
 - Dissolved oxygen/temperature profile
 - 3 tows - 150 μm and 750 μm mesh



Methods

• Angler catch 346 postcards - 2014

Attention trout anglers fishing lakes in Hubbard County
Participants are needed for a DNR "Trout Angler Diary" program



The Department of Natural Resources Park Rapids Area fisheries office is seeking information from trout anglers to evaluate trout harvest on Blacksmith, Crappie and Newman lakes in Hubbard County.

These lakes are stocked with two different strains of rainbow trout. DNR wants to determine which trout strain will perform best to improve fishing opportunities.

Participants would record information such as lengths of rainbow trout harvested and/or released and the presence or absence of a fin clip.

To participate in this research project, contact Calub Shavlik at 218-732-4153 ext. 223, calub.shavlik@state.mn.us or stop by the Park Rapids Area fisheries office, 301 South Grove Avenue, Park Rapids.



ATTENTION TROUT ANGLERS FISHING BLACKSMITH, CRAPPIE AND NEWMAN LAKES

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Participants can record information in a diary provided by DNR, or simply contact DNR with the lake name, dates/times fished, number of anglers in party, lengths of rainbow trout harvested and/or released, and the presence or absence of a fin clip.



Fin clipped rainbow trout



Rainbow trout without fin clip

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Rainbow Trout Angler Diary

check one	Blacksmith	Crappie	Type of fishing	
	Newman		Shore	Boat
Trip info	Date	/ /	Number of anglers in your party	
	Start time	: : am	1	2
	End time	: : pm	3	4
	Total hrs (if different)	:	5	

Length (in)	Rainbow Trout with adipose fin		Rainbow Trout missing adipose fin	
	Harvested	Released	Harvested	Released
<6.00				
6.0 - 6.9				
7.0 - 7.9				
8.0 - 8.9				
9.0 - 9.9				
10.0 - 10.9				
11.0 - 11.9				
12.0 - 12.9				
13.0 - 13.9				
14.0 - 14.9				
15.0 - 15.9				
16.0 - 16.9				
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DNR NEWS - FOR IMMEDIATE RELEASE May 8, 2014
Media contacts: Calub Shavlik, DNR Park Rapids assistant area fisheries supervisor, 218-732-4153, ext. 223, calub.shavlik@state.mn.us; Doug Kingsley, DNR Park Rapids area fisheries supervisor, 218-732-4153 ext. 222, doug.kingsley@dnr.state.mn.us

DNR seeks information from trout anglers fishing Blacksmith, Crappie and Newman lakes in Hubbard County

As part of a research project to evaluate the success of two different strains of rainbow trout in Hubbard County lakes, the Minnesota Department of Natural Resources Park Rapids area fisheries office is asking for help from trout anglers willing to provide harvest and release information on Blacksmith, Crappie and Newman lakes in Hubbard County.

In order to improve fishing opportunities, the DNR is asking trout anglers who regularly fish these three lakes to participate in an "angler diary" survey. Participants would collect information including the lake name, dates/times fished, lengths of rainbow trout harvested and/or released, and the presence or absence of a fin clip.

The project is the first of a two-year study to determine if one strain of rainbow trout does better in terms of growth rates, condition and catchability by anglers.

"These three lakes have been stocked over the past two years with two different strains of rainbow trout," said Calub Shavlik, DNR Park Rapids assistant area fisheries supervisor. "Recently, we noticed that one strain appeared to have generally survived better than the other."

The angler diary project will help the DNR make management decisions regarding the trout strain selection that provides the best angler opportunities in these small stream trout lakes, Shavlik said.

Participants will be asked to provide information for both the 2014 and 2015 fishing seasons.

Trout anglers who occasionally fish the three lakes can also participate in the project by contacting the Park Rapids Area fisheries office with information regarding their fishing experiences on the lakes.

To participate in the "angler diary" project, contact Calub Shavlik at 218-732-4153 ext. 223, calub.shavlik@state.mn.us or stop by the Park Rapids Area fisheries office, 301 South Grove Ave., Park Rapids.

Methods

• Angler catch 405 postcards - 2015

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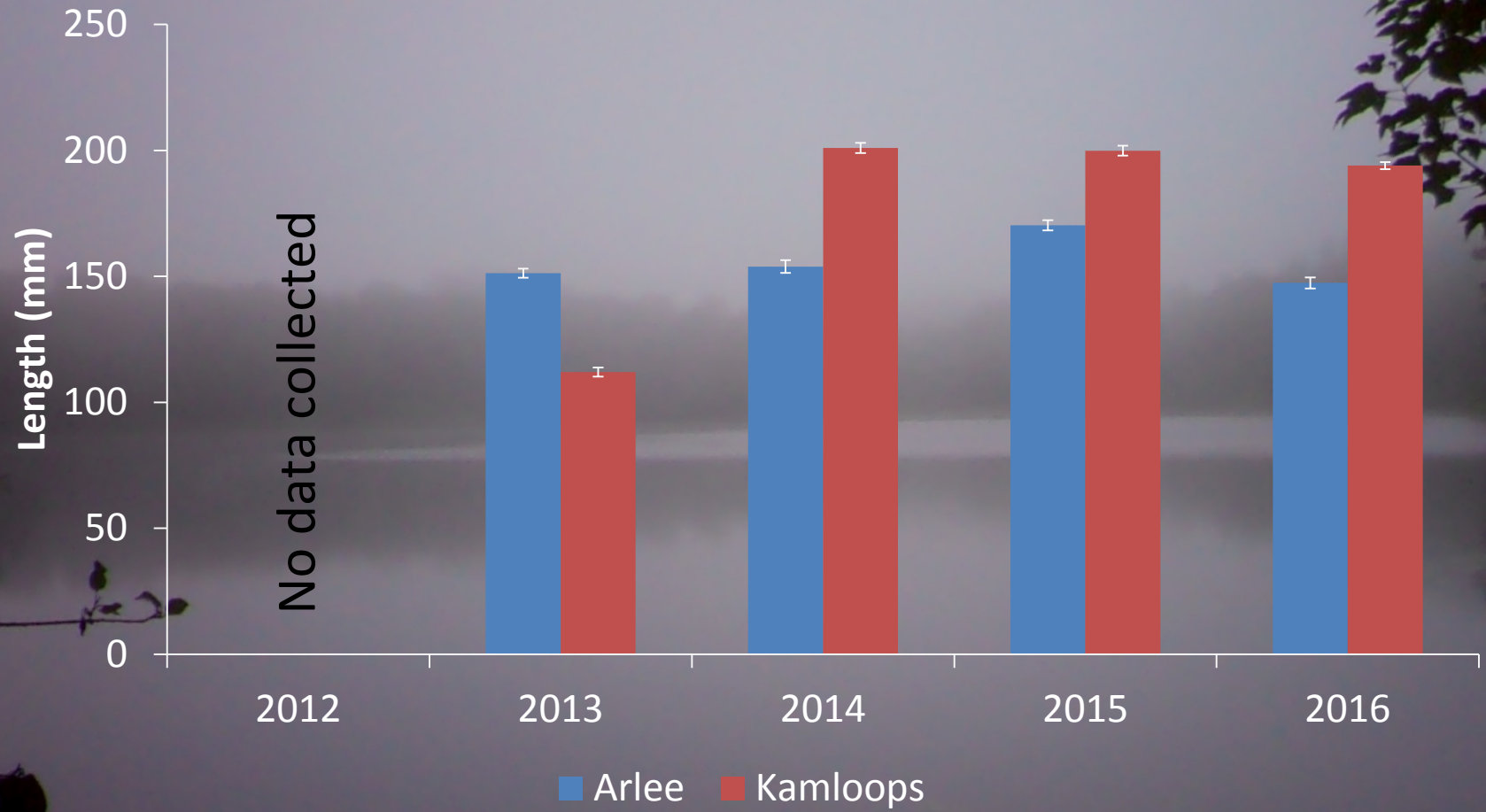
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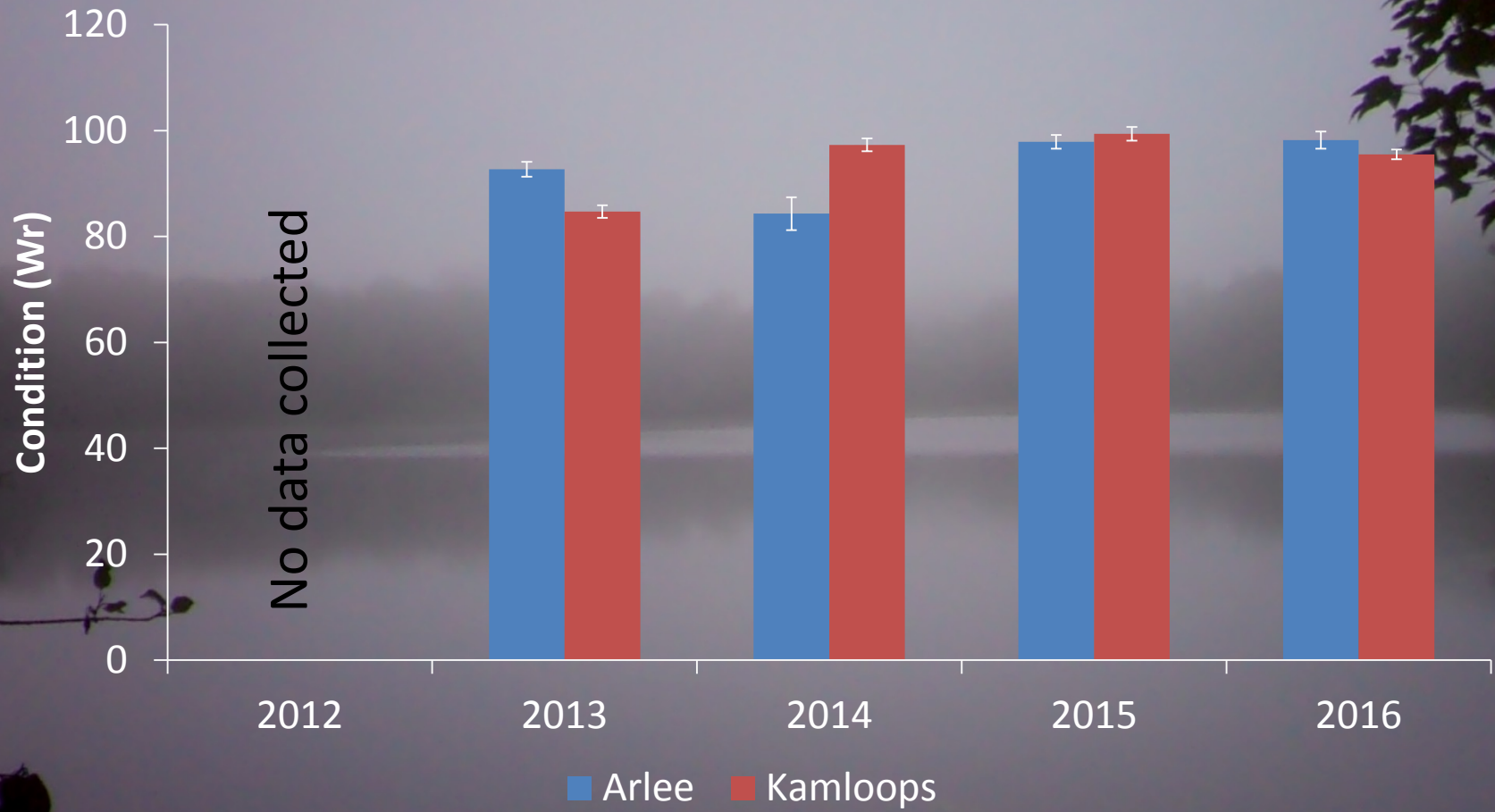
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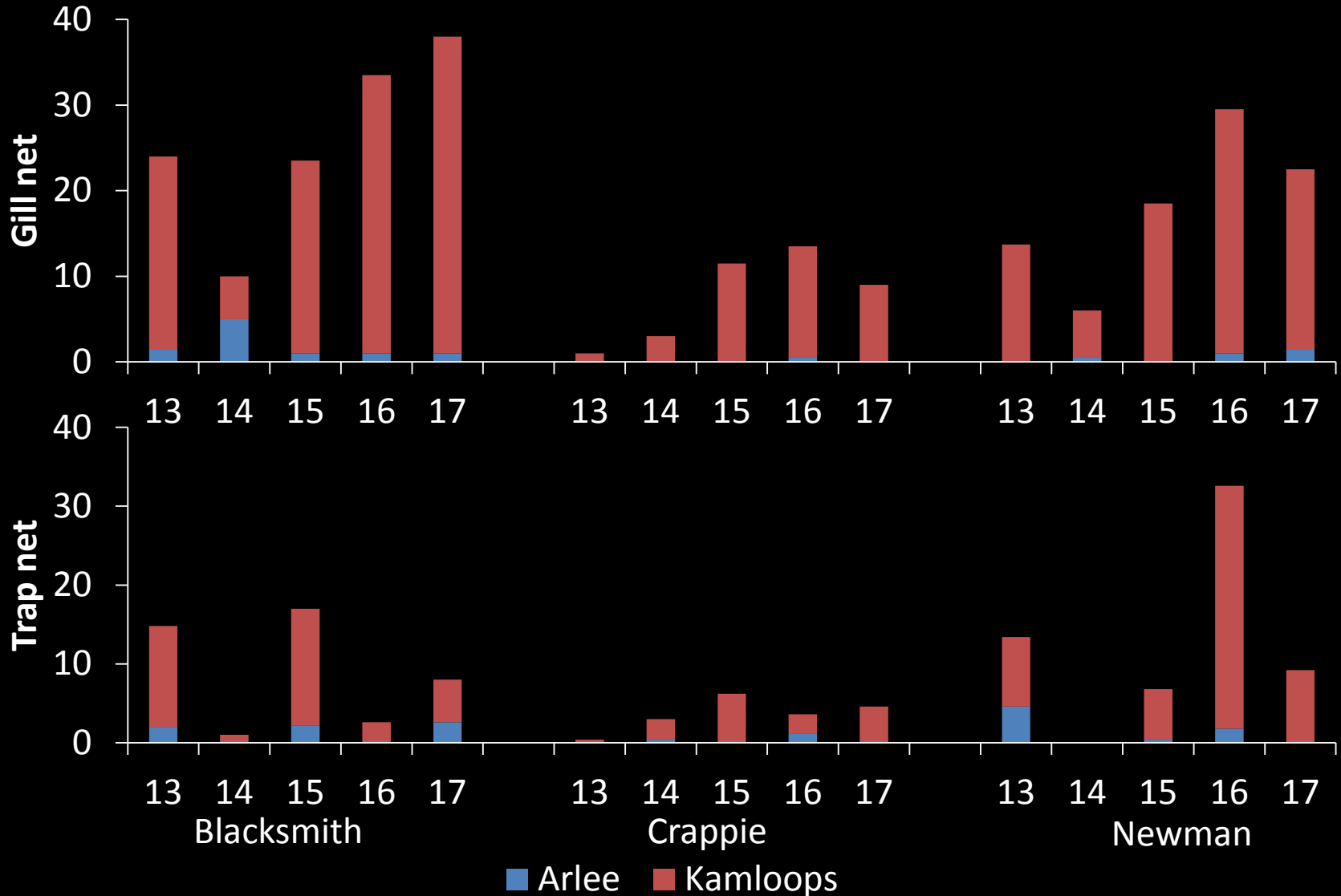
Length – stocked fingerling



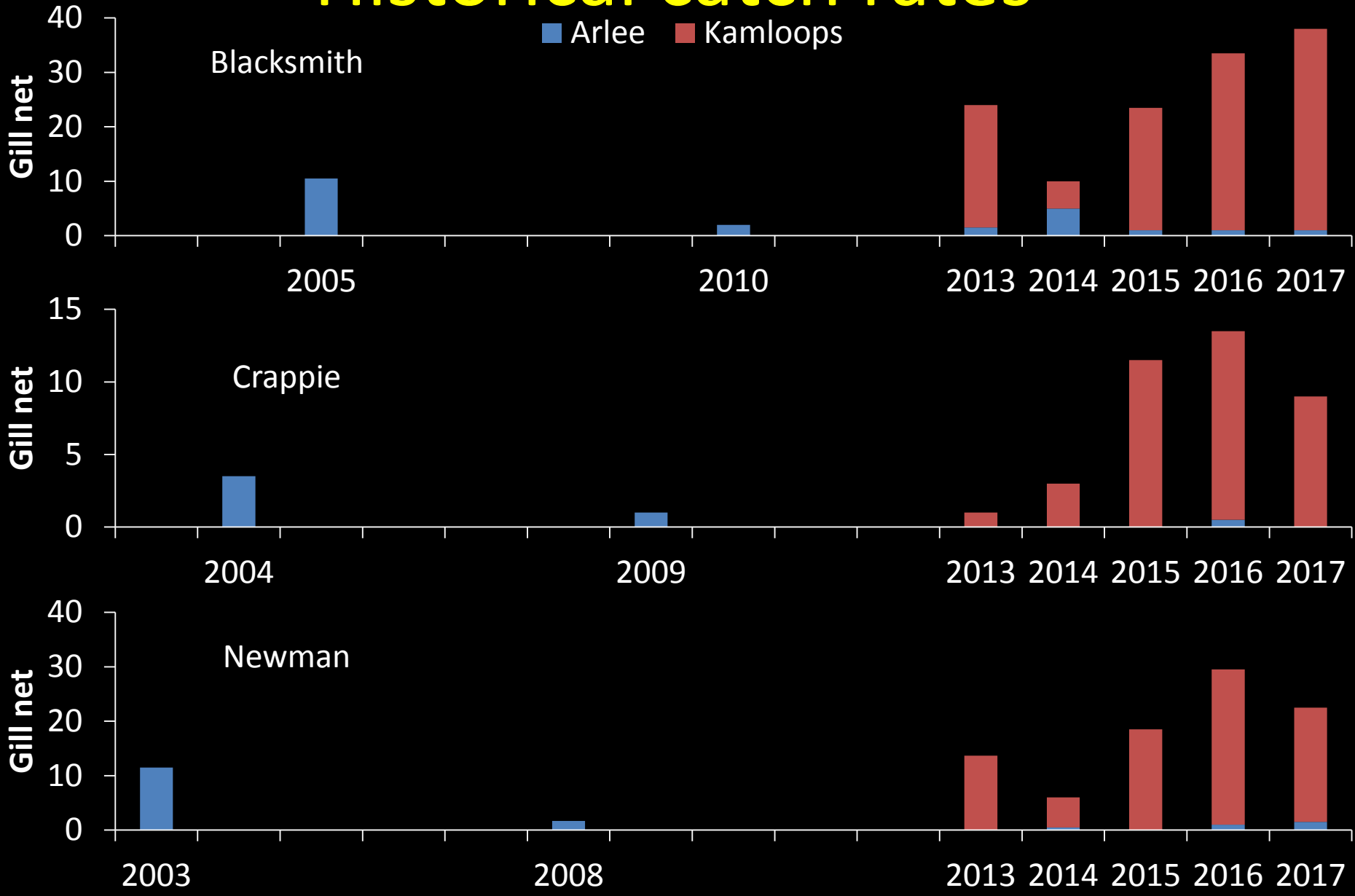
Condition – stocked fingerlings



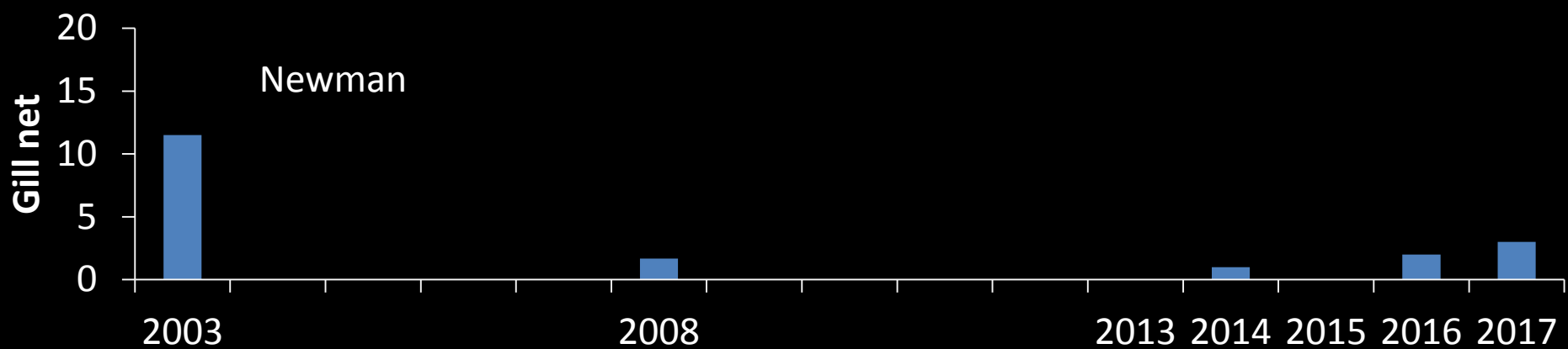
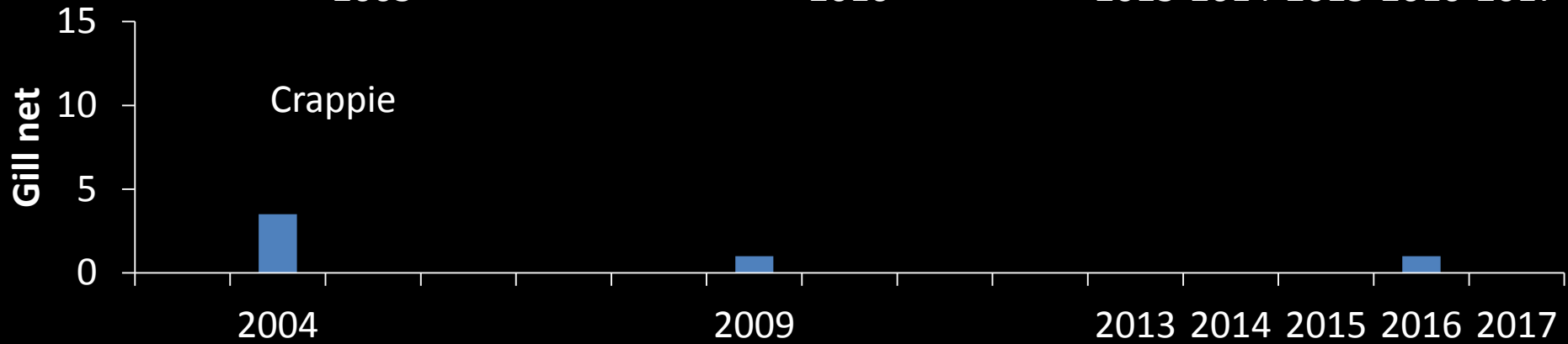
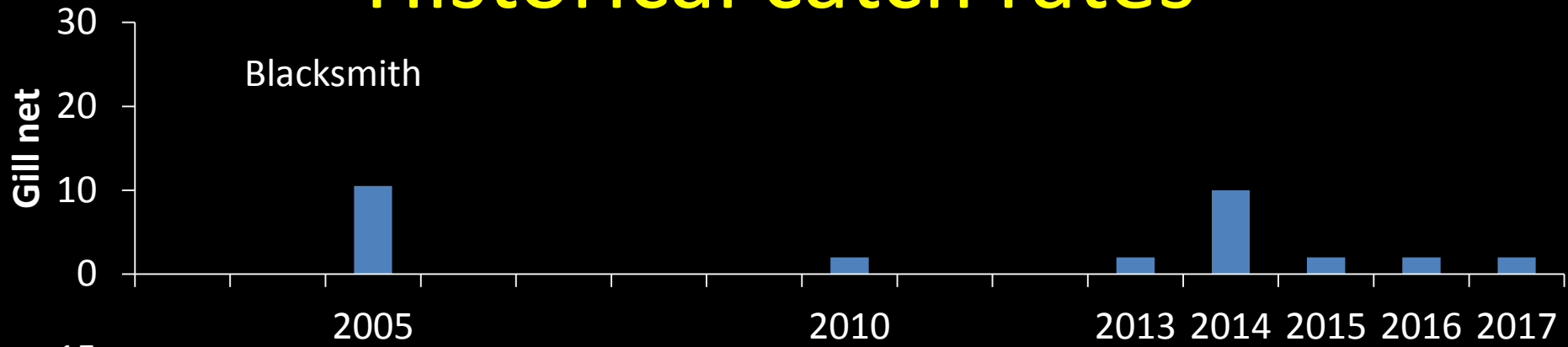
Catch rate – summer survey



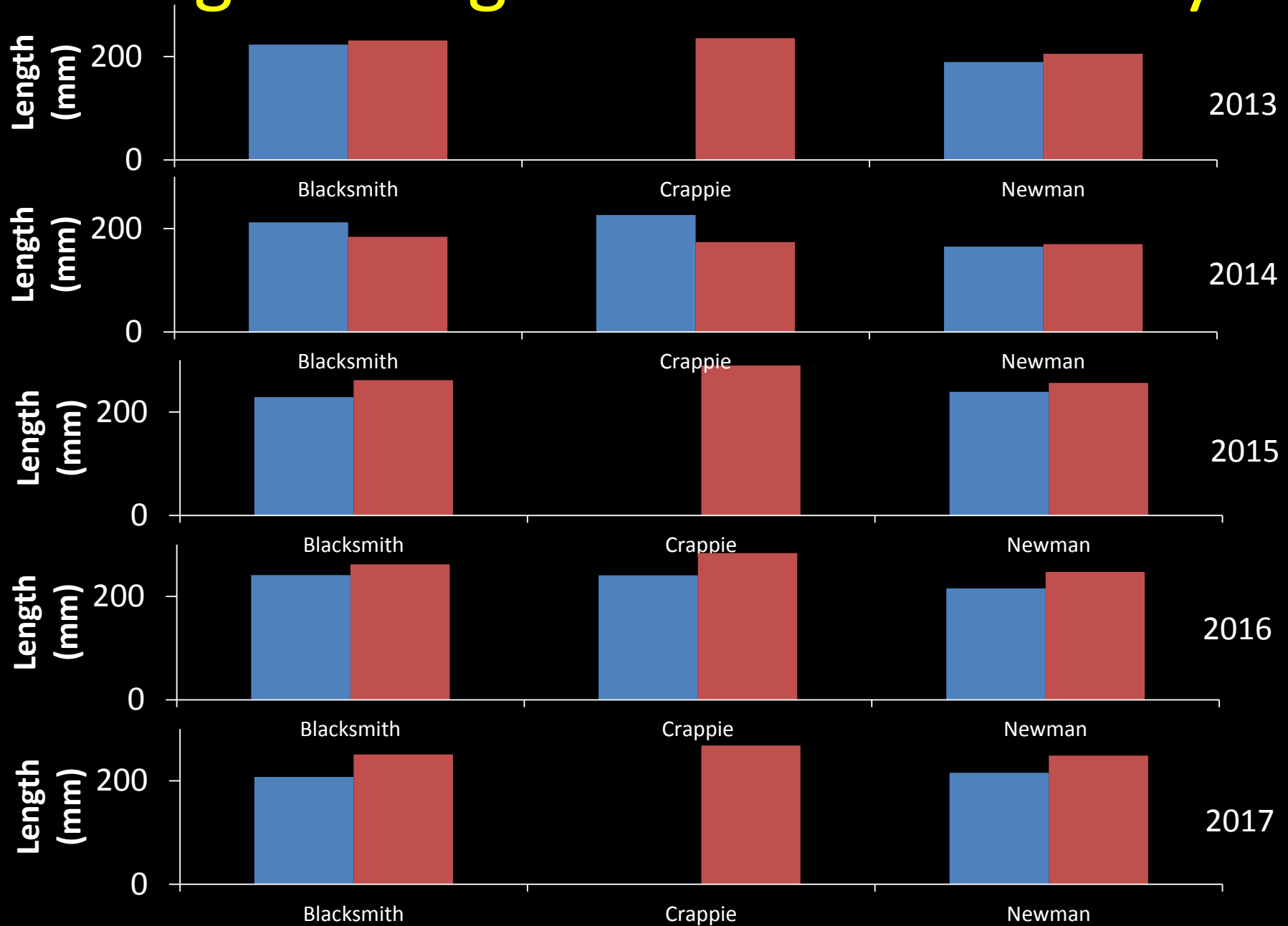
Historical catch rates



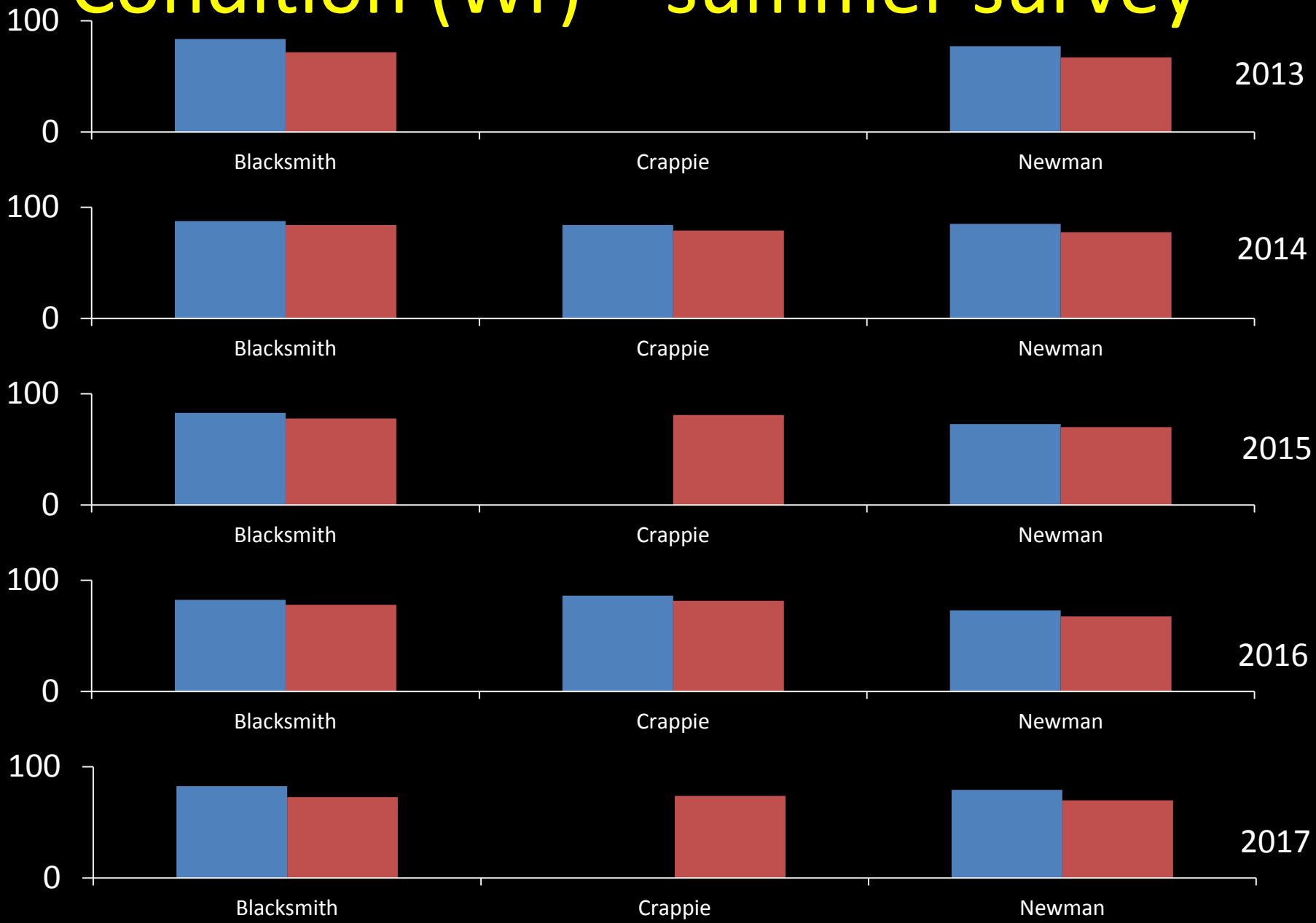
Historical catch rates



Age-1 lengths – summer survey



Condition (Wr) – summer survey



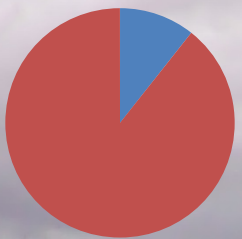
Strain ratio – summer survey

Blacksmith

Crappie

Newman

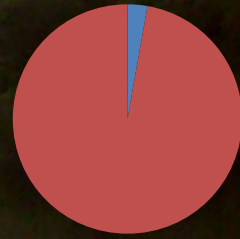
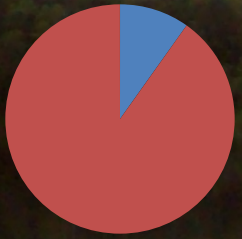
2013



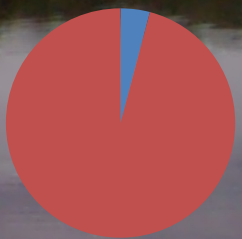
2014



2015



2016

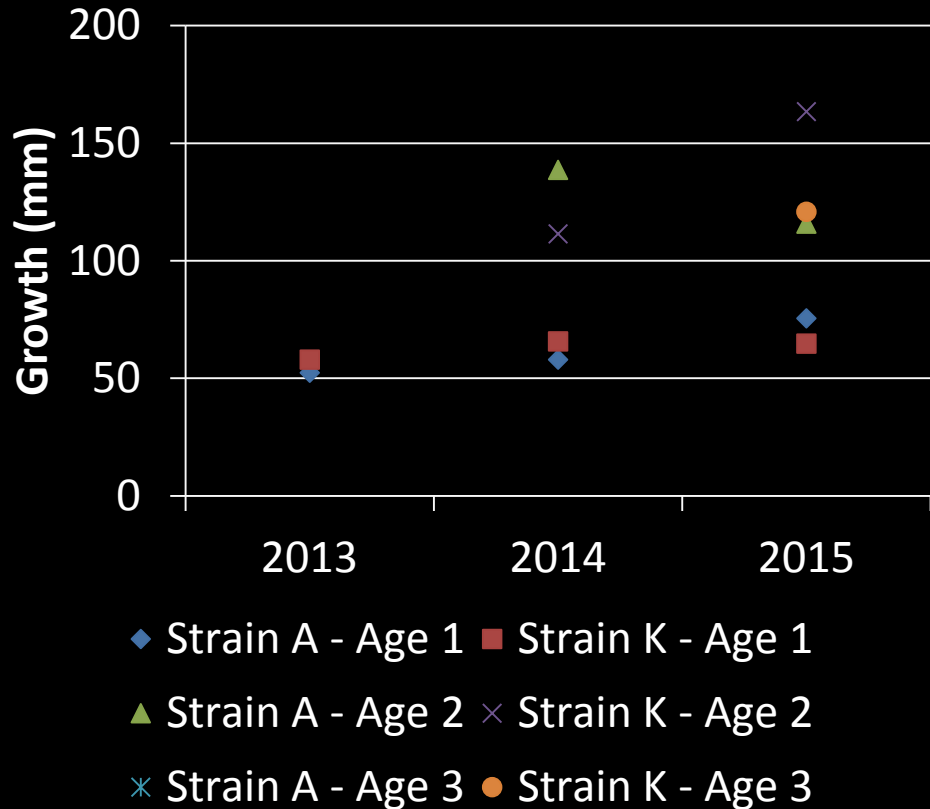


2017



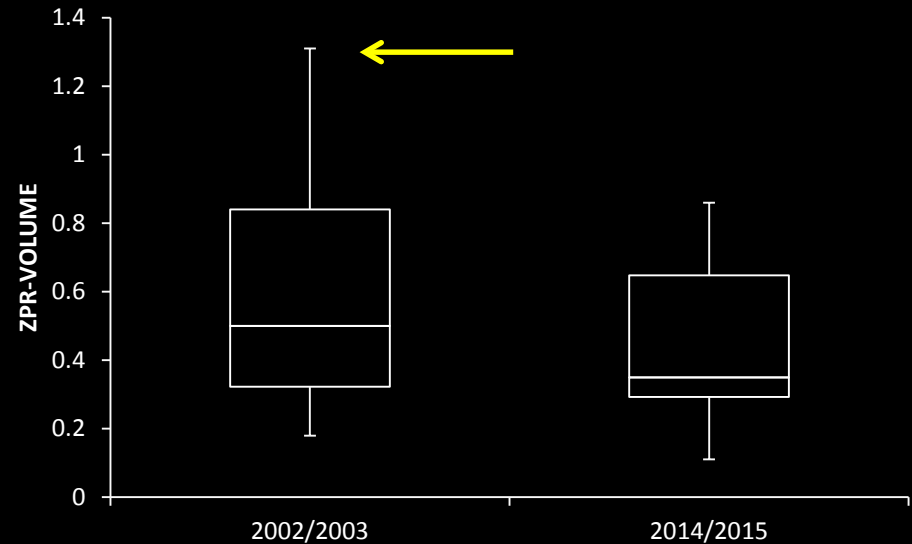
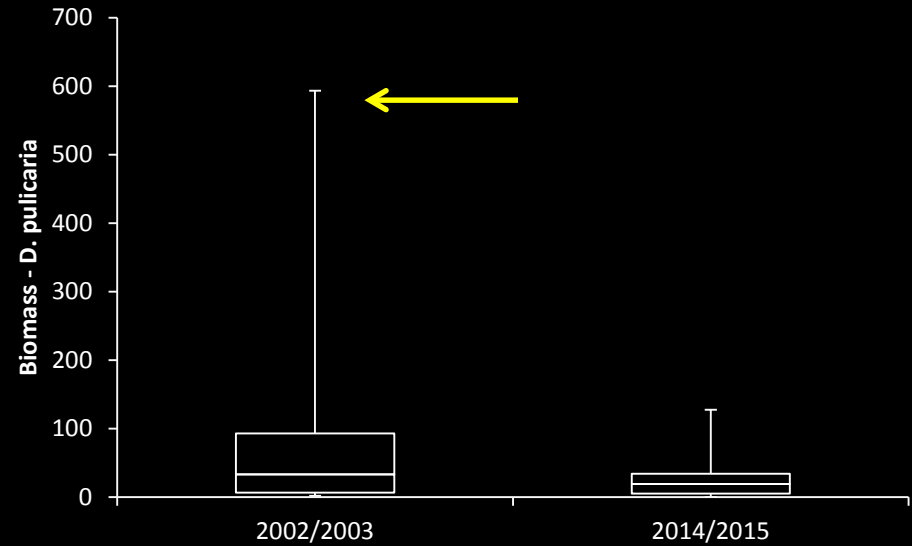
Growth

- ANOVA Model
 - Sample year, Year-class, lake, strain, days of growth
- Strain was significant
 - Biologically (2 mm)
- Lack of data
 - Arlee carry over and 2012 stocking
- Survival of Kamloops



Zooplankton

- No significant difference in biomass and density
 - 750 μm and 150 μm
 - *Daphnia pulicaria*
 - ZPR
- Some higher values observed in 2002/2003



Angler participation results

- Postcards, flyers, press release = 16 anglers
- Angler diaries
 - 30 interviews in 2014 summer
 - 16 interviews in 2015 winter season

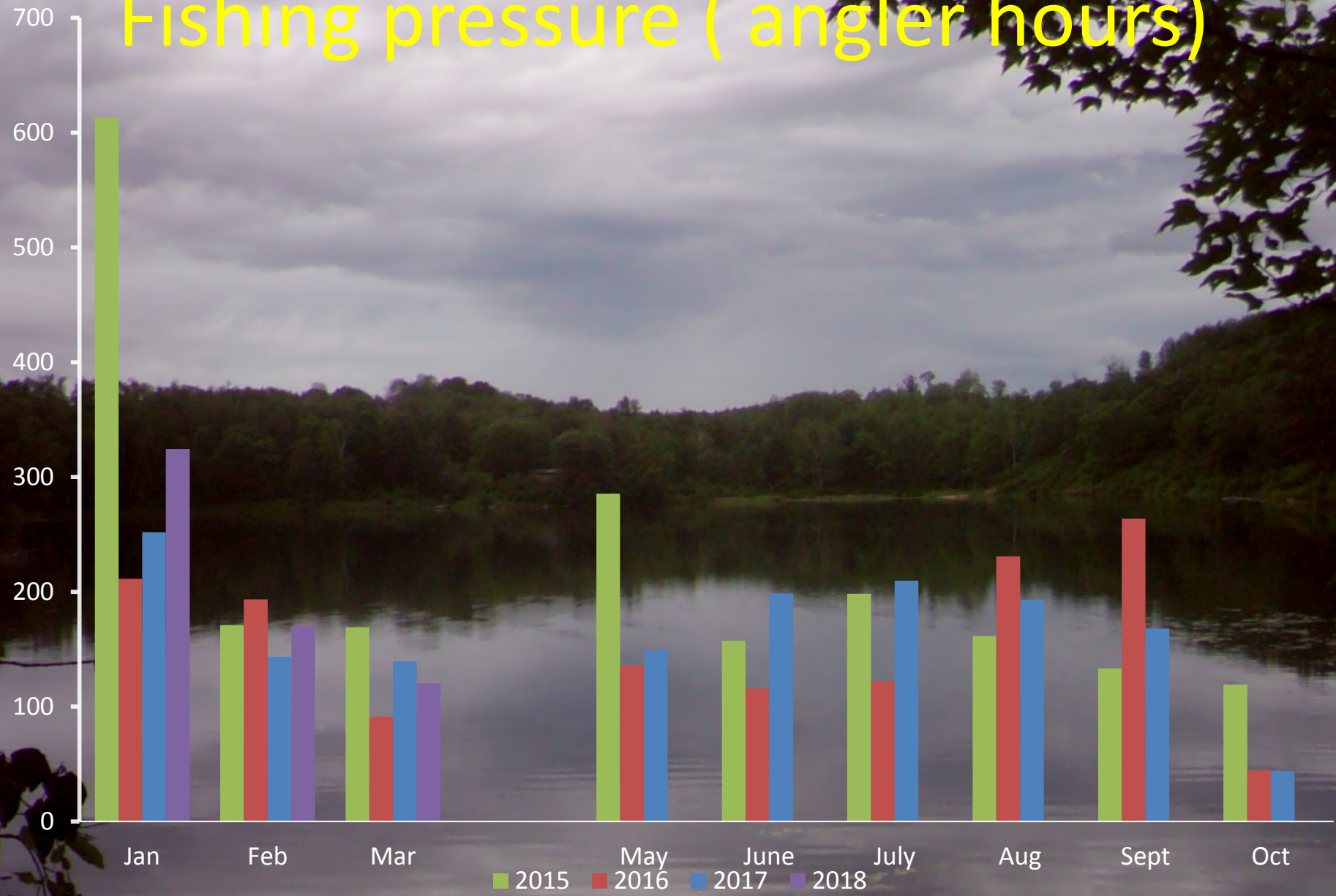
Angler participation results

- Postcards, flyers, press release = 16 anglers
- **Angler diaries**
 - 30 interviews in 2014 summer
 - 16 interviews in 2015 winter season
 - **25 interviews in 2015 summer**

	Blacksmith	Crappie	Newman
Postcard – mailed	7	---	---
Postcard - mailbox	5	---	---
Dairy booklets	1(1)	0	10 (2)
Email	1	0	0
Phone call	0	1	0
Total	14	1	10



Fishing pressure (angler hours)



Strain ratio – angler catch

Blacksmith

Crappie

Newman

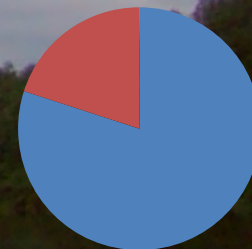
2014
Summer



No angler
information



2015
Summer



2016
Summer



No angler
information



2017
Summer



Recommendation

- Continue stocking
 - Kamloops only
- Gill and trap net sampling
 - Back to once every five years
- Zooplankton sampling
 - 2021/2022



Any questions?

Calub Shavlik
MN DNR
Park Rapids Fisheries

