

Skeena River Fishes
March 28 2004
PB Moyle

I. Unusually diverse for BC Coastal River

30 species (32 if you count sturgeon)

Why ? How?

15K years ago the region was completely covered with glaciers.

Answer is good example of factors promoting dist of FW fishes in general

Filter Diagram

II. Fish fauna

A. Marine derived (17 species – 1 non-native)

B. Columbia River (10 but 3 could have come from Peace as well)

C. Missouri-Mississippi (3)

Peace River

III. Potential fish fauna

All of North America but better to narrow it down to Mississippi and Columbia
Pleistocene connections- glaciers

IV. Zoogeographic

Columbia via Fraser

Missouri via Peace

V. Physiological filters

A. Explain broad distribution within a system

B. Gradients upstream to downstream

Size: small-large

Temp.: cold-warm

Gradient: high-low

Velocities:

Depth: shallow-deep

Habitat complexity (fish perspective): simple-complex

C. Erosional zone-intermediate zone- depositional zone

D. General patterns

1. Downstream

fish that need close connection to ocean (pinks, eulachon,
stickleback, coastrange sculpin)

Low gradient fishes (pikeminnow, largescale sucker, redbelt
shiner, peamouth chub)

+ most of upstream fishes

2. Upstream

Long migrators

Lake specialists

Cold water, high gradient specialists (salmonids)

We will sort this out on our trip

VI. Behavioral interactions

A. Predation and competition

Complex interactions among salmonids

Rainbow vs cutthroat

Size of juveniles (big trumps small)

If size removed:

Coho>rainbow>cutthroat>Chinook>chum/sockeye/pink

B. Bioenergetics

Klamath: rb>Chinook>coho

C. Result: potential community

But species may still be absent

Natural disturbances

Landslide blocks access to upstream- temp loss of species

D. Natural community

E. Human disturbance

Changed conditions

Introduced species

Fishing

= **observed community**

F. We will be documenting that community, at least for a small part of the year

Ask questions: why this particular combination of species?