

Rubicon River Fishery Assessment

The impact of angling on the trout population in a small Victorian stream.

Presentation overview

- ◆ Background on the fishery and issues
- ◆ The study - what was done
- ◆ Key findings
- ◆ Where to from here



Background

- ◆ Recreational angling is an important activity in streams
- ◆ Recreational anglers represent a major user group of rivers
- ◆ Fisheries Victoria manage fisheries to provide/maintain recreational angling
- ◆ Catchment Management Authority's waterways management role includes recreation

Background- Rubicon fishery

- ◆ Anglers have concerns that catches decline over the trout angling season
- ◆ Suggest declining catches due to the overfishing
- ◆ Anglers want the recreational take severely limited - catch and release
- ◆ Angling mostly undertaken in lower reaches within cleared farming area-about a 10 km section in the lower reaches
- ◆ Naturally reproducing brown trout and rainbow trout-mostly brown trout
- ◆ Stream has a reputation of being “very good” trout stream

Study overview

- ◆ The study determined
 - the abundance and size structure of the trout population
 - angler catch and harvest rates
- ◆ The study looked for indications of overfishing.....
 - decline in catch?
 - decline in trout population?



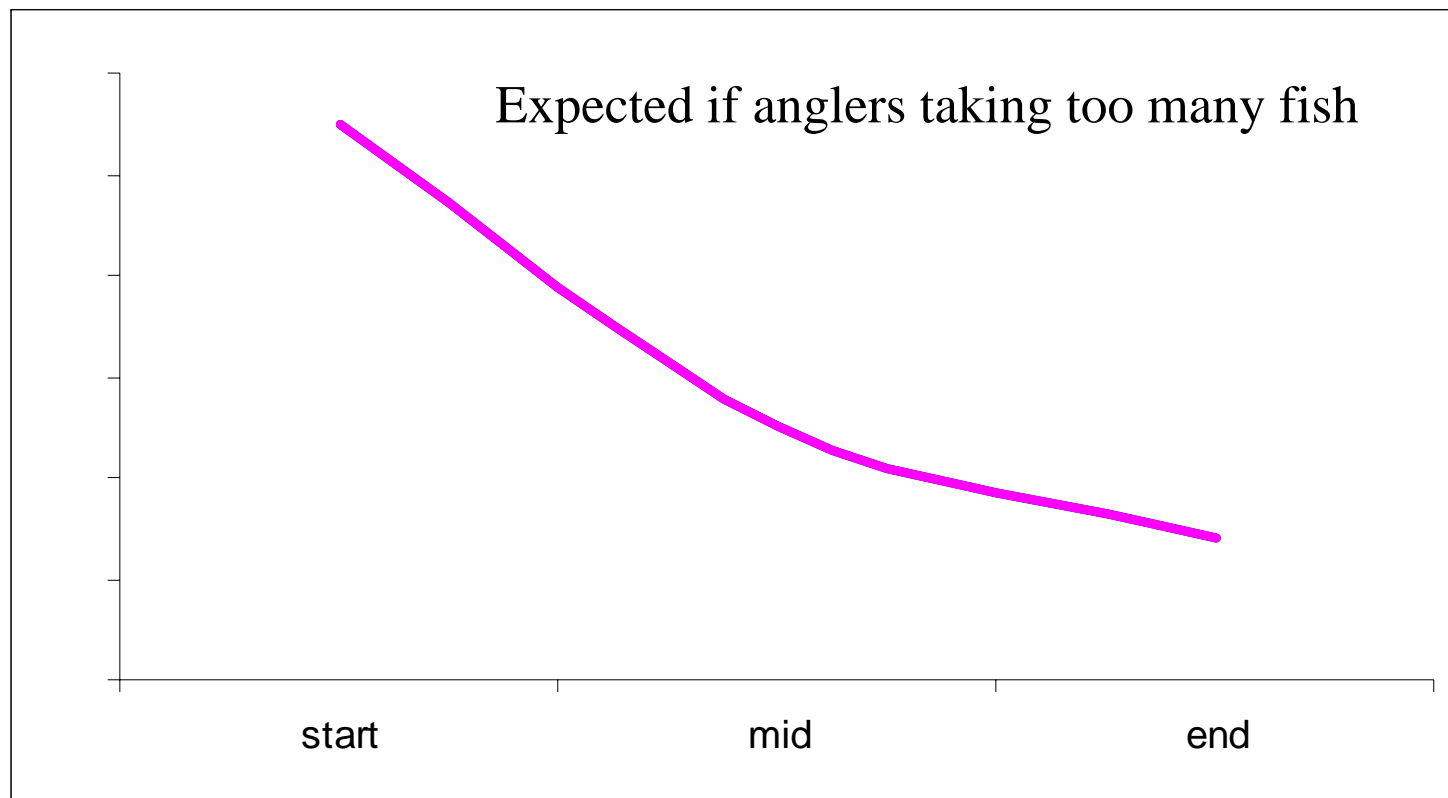
Methods

- ◆ Trout population
 - population estimates
 - 4 sites (originally)
 - three surveys per season
 - fish down
 - electrofishing

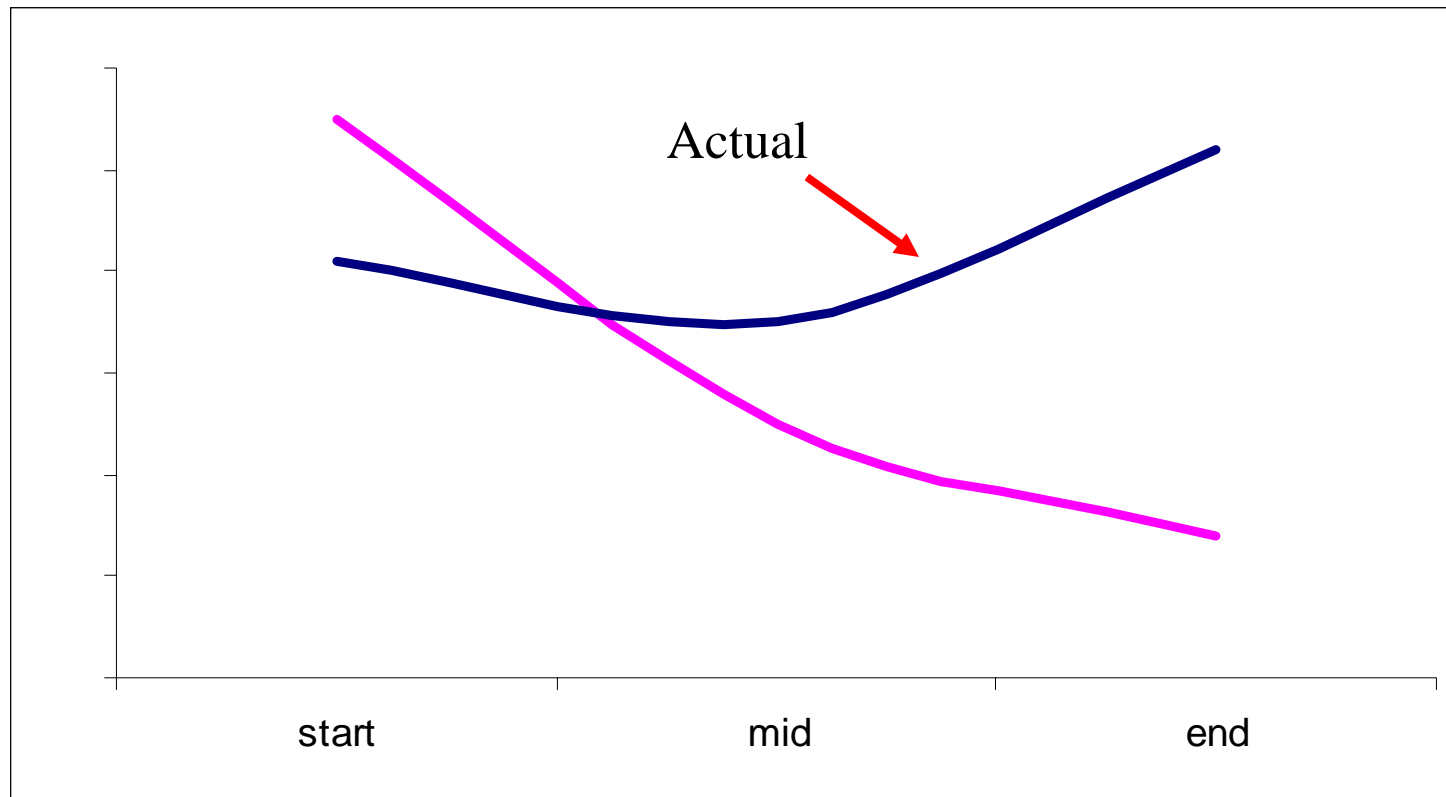
- ◆ Angler catch and effort
 - creel survey
 - angler catch rate
 - angler take rate
 - estimate of total take and harvest



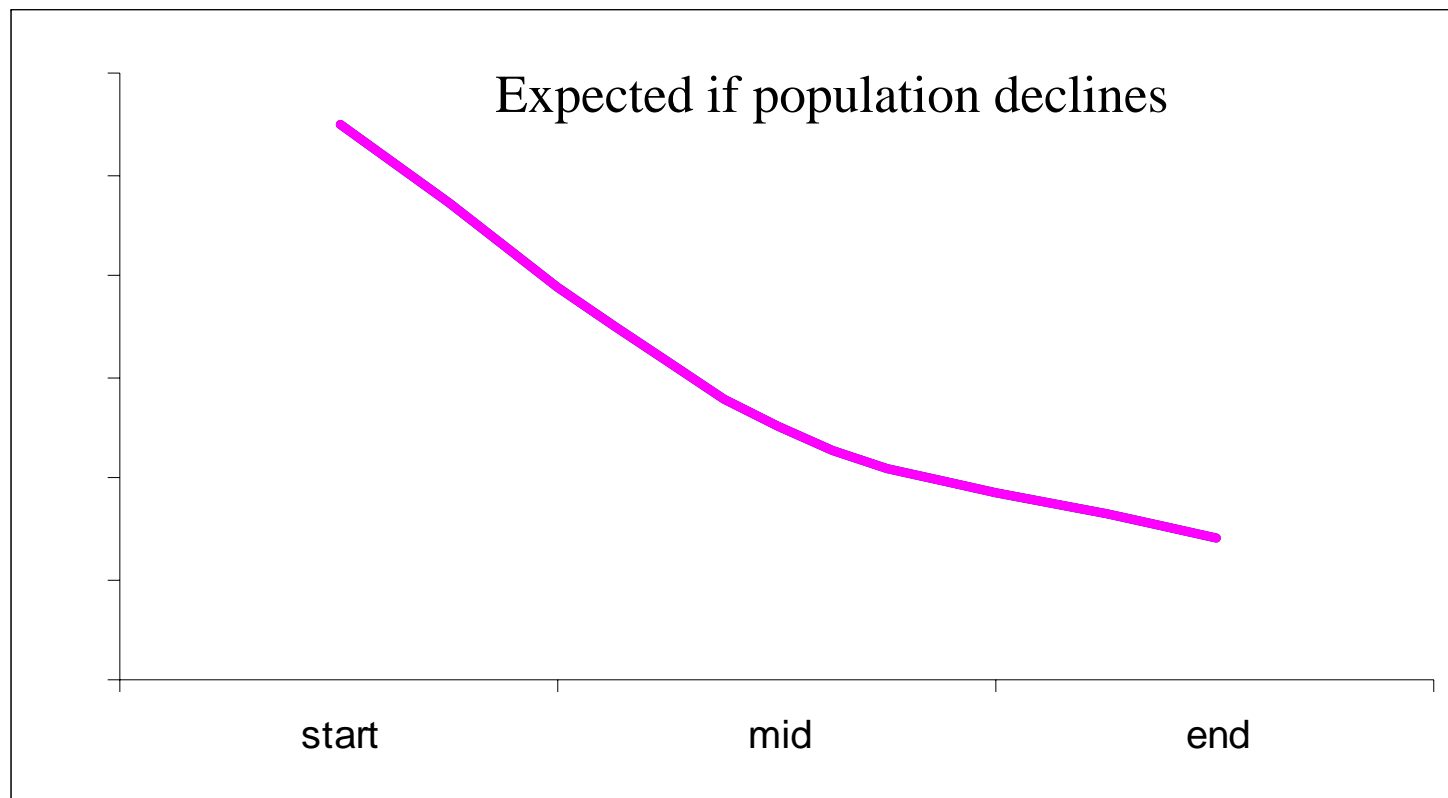
Results-trout population



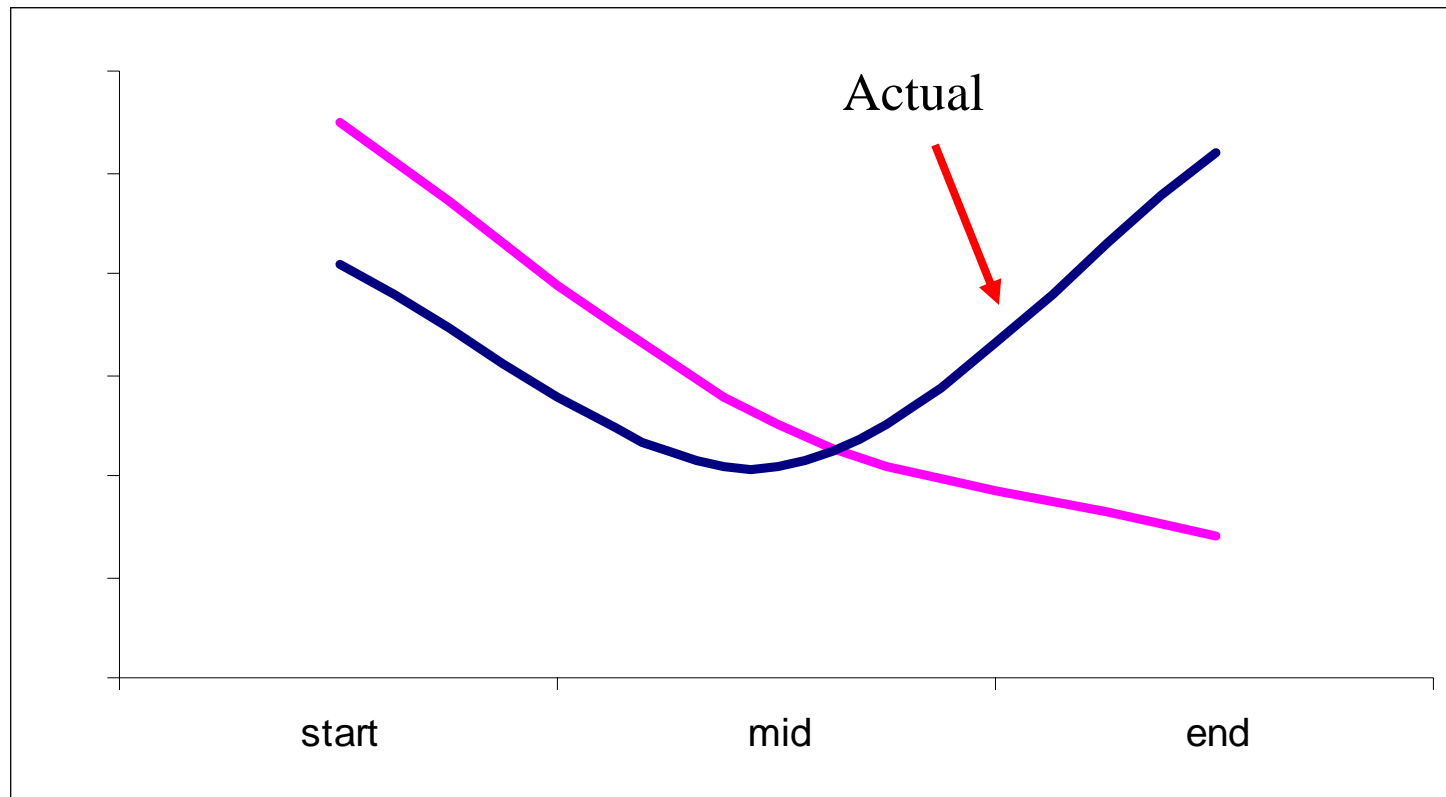
Results-trout population



Results-angler catch rates



Results-angler catch rates



Key findings

- ◆ Concluded that current level of harvest does not influence trout population throughout the season
 - catch rates did not decline over the season
 - no overall drop in trout populations
- ◆ Fish are present but harder to catch in warmer months
 - water temp related?? behavioural change??
- ◆ Trout population varies markedly between fishing seasons
 - population dynamics, environmental conditions (drought)
- ◆ Trout population varies between sites
 - different abundances at different sites

Key findings

- ◆ Trout populations varied between sites
 - sites around the upper reaches of the study area had higher fish abundances than the two sites on the lower Rubicon River
- ◆ An obvious difference between these sites is the habitat
 - upper sites: gravel, boulders, stepped flow
 - lower sites: sand, silt, woody debris, more laminar flow (smooth and slower)
- ◆ Lower sites more degraded
 - increased incidents of active erosion and siltation
 - unrestricted stock access and grazing to stream edge









Recommendations from study

- ◆ An assessment of the extent and condition of existing aquatic habitat and the potential for rehabilitation should be undertaken
- ◆ A habitat rehabilitation program in the Rubicon River specifically aimed at maximising fish habitat and increasing fish densities be initiated

Where to from here

- ◆ Habitat rehabilitation has had major impacts on streams where habitat was the limiting factor of the fishery
- ◆ Habitat rehabilitation has other benefits, not just to fish

 - increased macroinvertebrates,
 - increased riparian vegetation values,
 - wildlife corridors,
 - improved water quality,
 - decreased erosion

- ◆ Habitat work in Delatite River showing promise
 - improved fish densities, wetland/marsh created, increased diversity, black ducks, snipe, tiger snake,





Habitat rehabilitation is a viable option that could not only improve stream and riparian habitat values but also increase fish densities and improve recreational angling.

