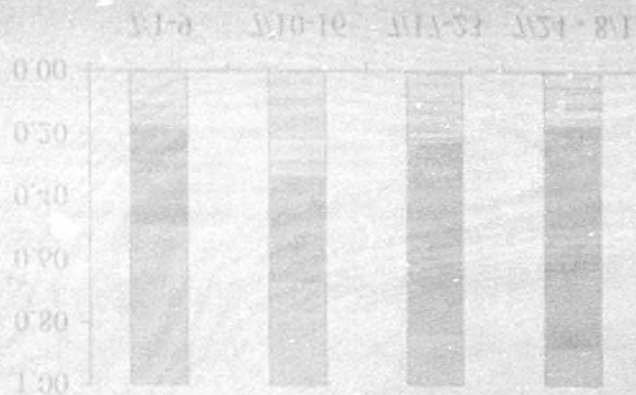


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explain the mixture genotypes (fishery).

step 3: Estimate stock composition that will best

determine genotypes.

step 2: Sample a mixed stock fishery and

step 1: Establish baseline allele frequencies.

Genetic Stock Identification



Post-season Stock Composition Analysis of Upper Cook Inlet Sockeye Salmon Harvest, 2005-2007

Christopher Habicht,
William D. Templin,
T. Mark Willette,
Lowell F. Fair,
Scott W. Raborn,
and
Lisa W. Seeb

Oral Report:

Tab 11

Written Report:

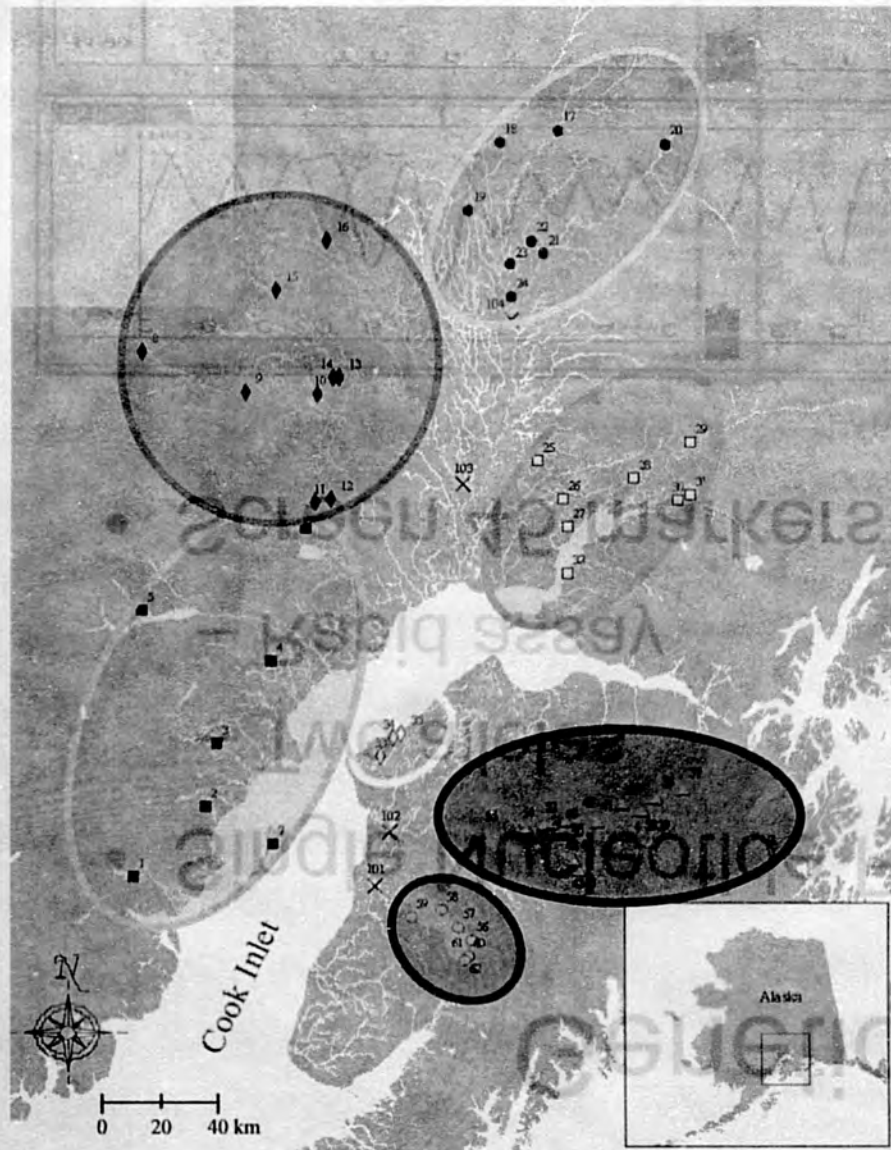
Tab 7

Genetics analyses

- Baseline development
- Baseline evaluation
 - Simulations
 - Proof tests
 - Fish wheel samples
- Mixed stock analysis
 - Offshore test fishery sampling
 - Drift gillnet
 - Set gillnet



Baseline collections – 7 reporting groups



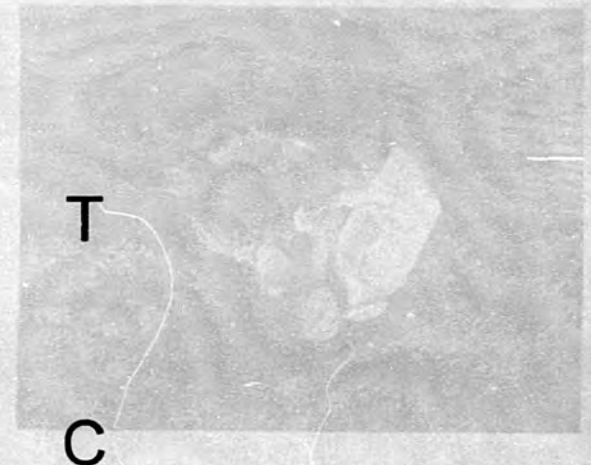
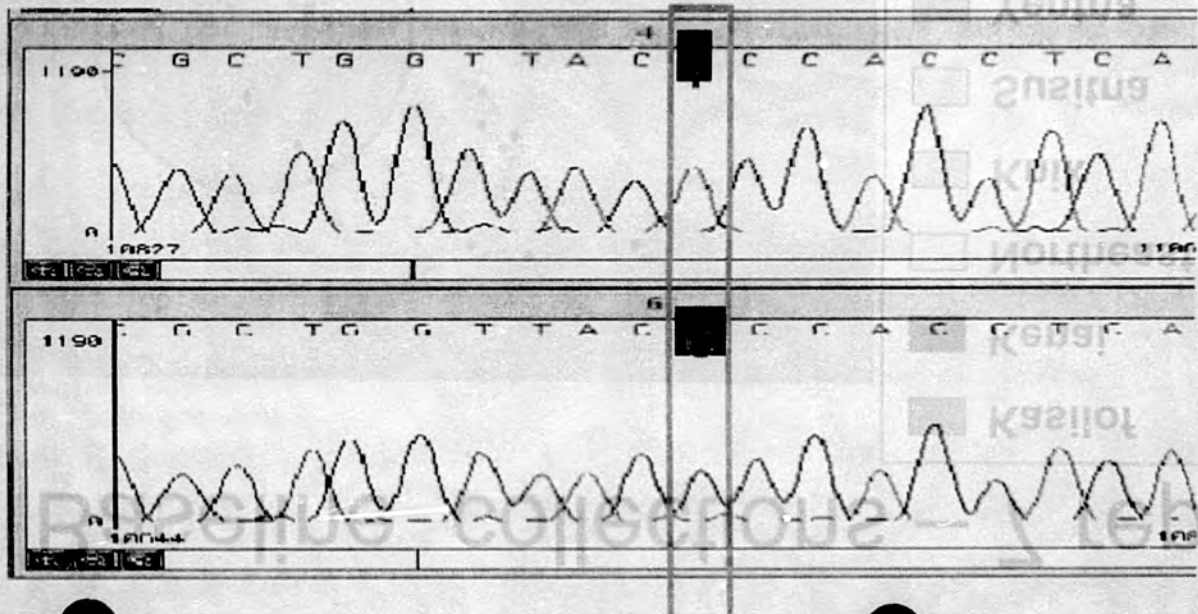
-  Kasilof
-  Kenai
-  Northeast
-  Knik
-  Susitna
-  Yentna
-  West



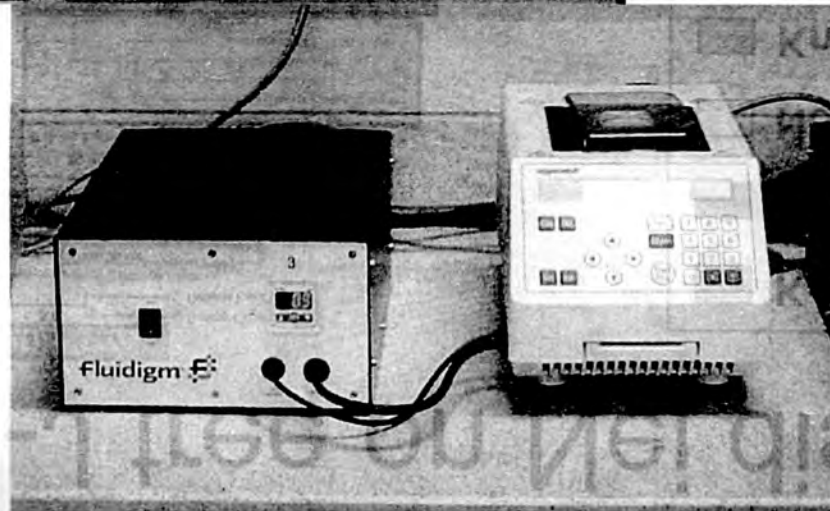
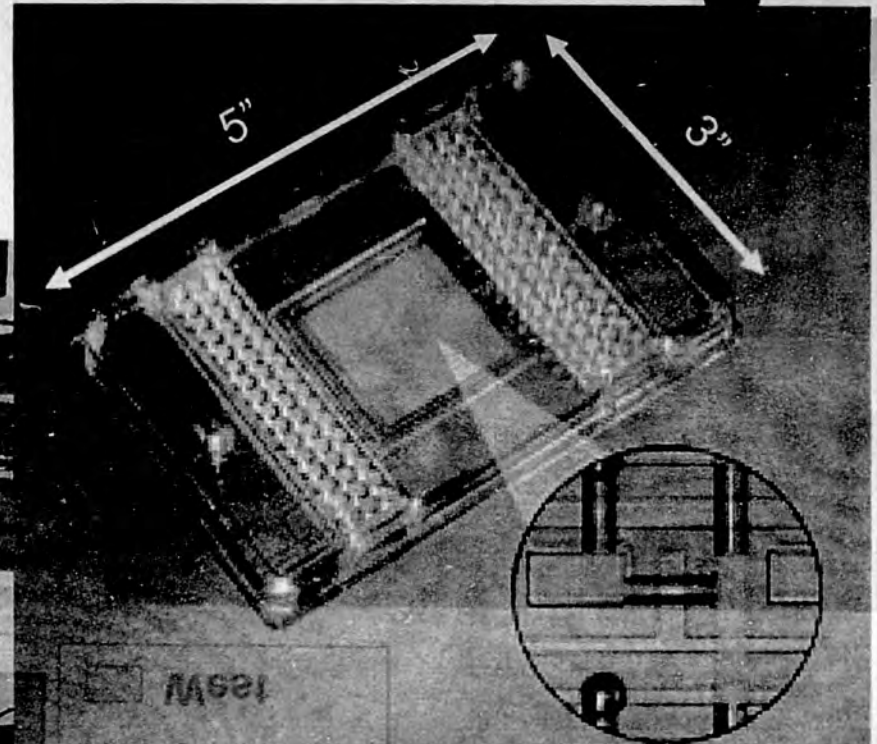
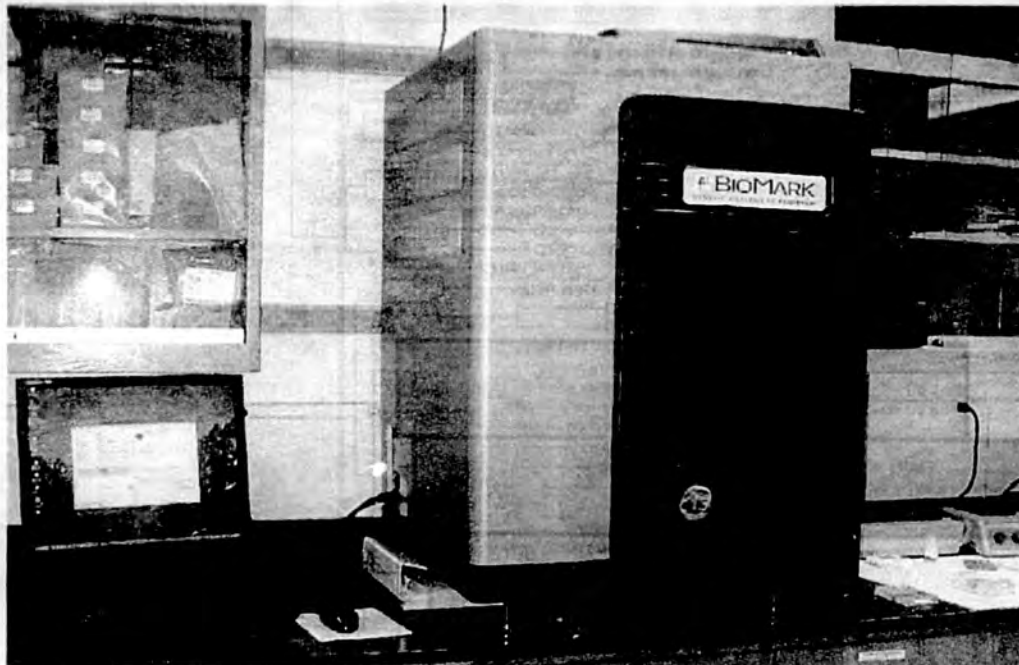
- 1992 to 2006
- 68 collections
- 62 locations

Genetic markers

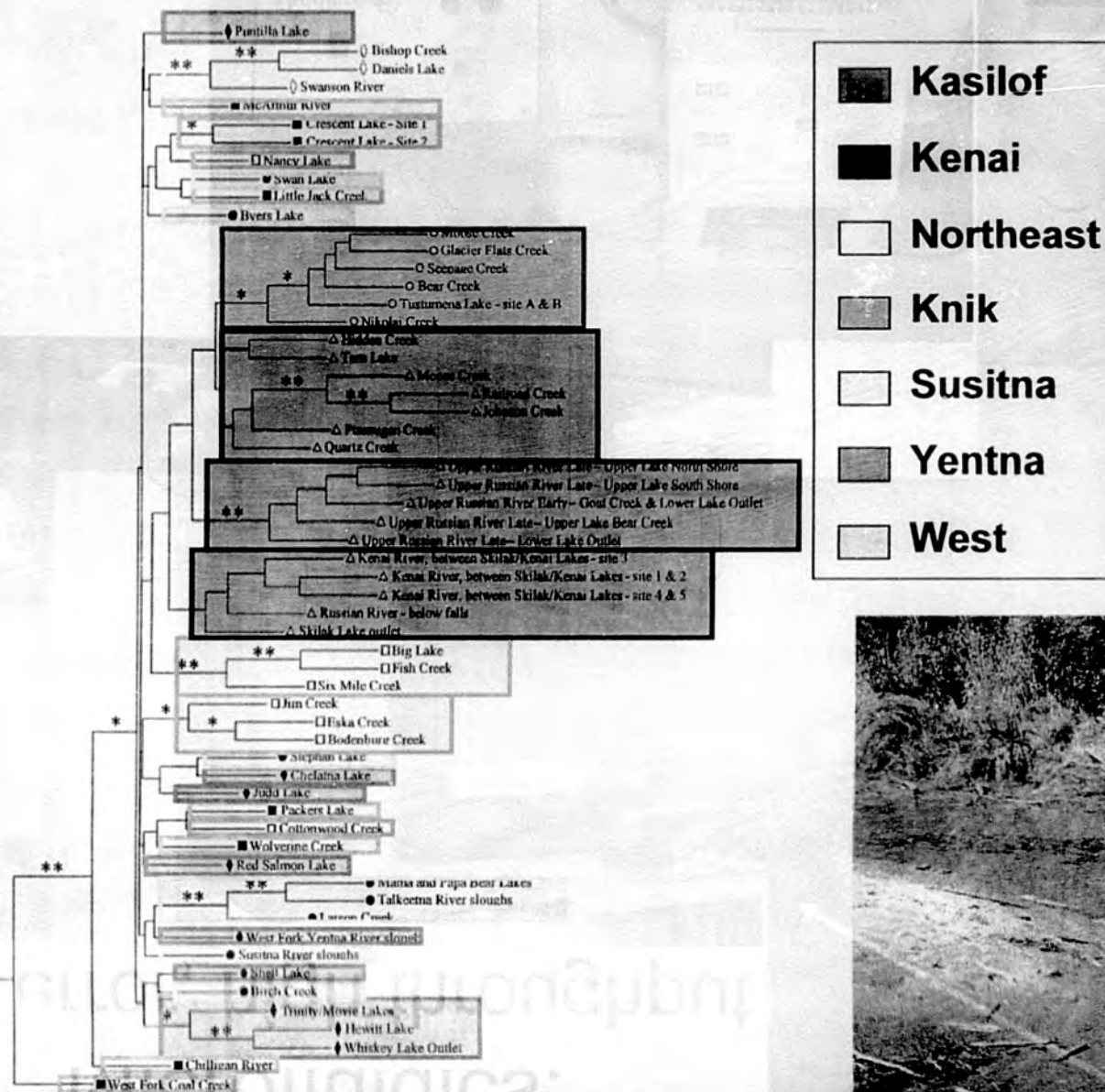
- Single Nucleotide Polymorphisms (SNPs)
 - Two alleles
 - Rapid assay
- Screen 45 markers



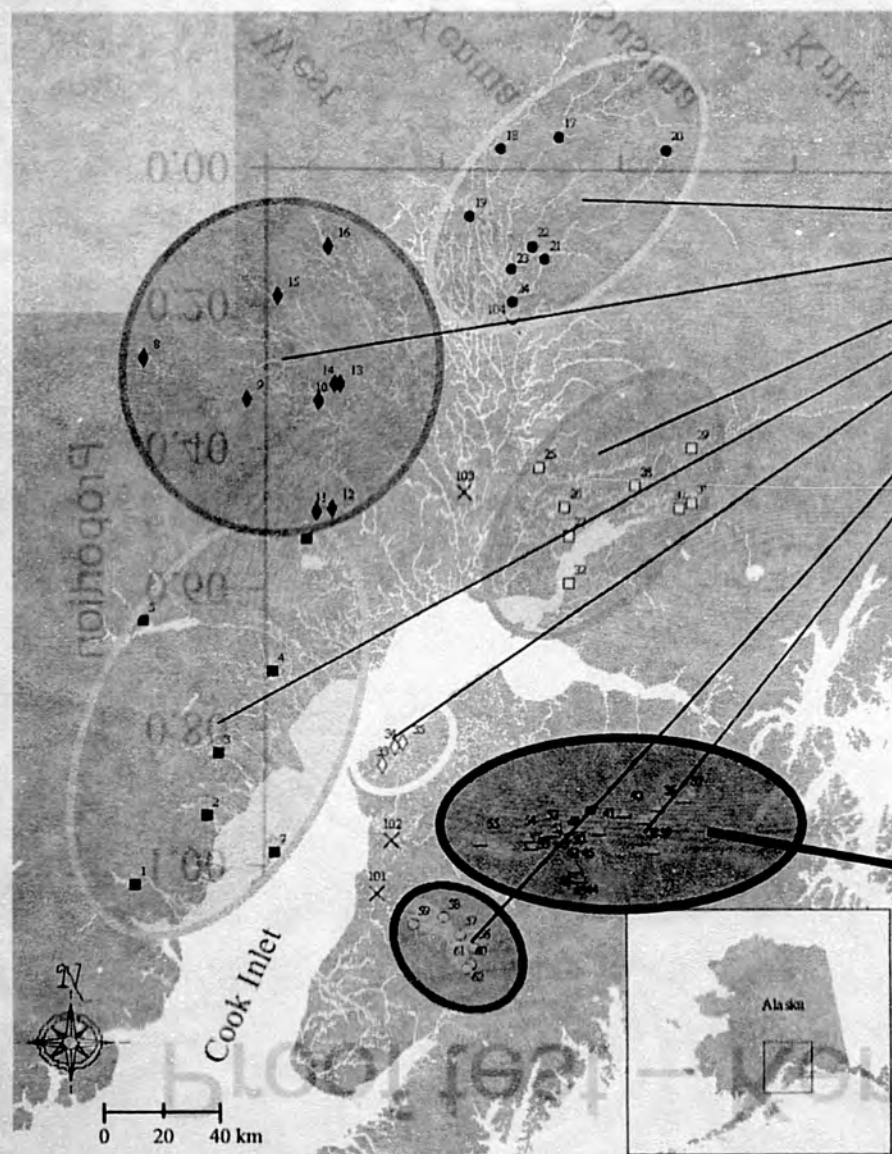
Microfluidics: low error, high throughput



N-J tree on Nei distances



Proof tests - methods

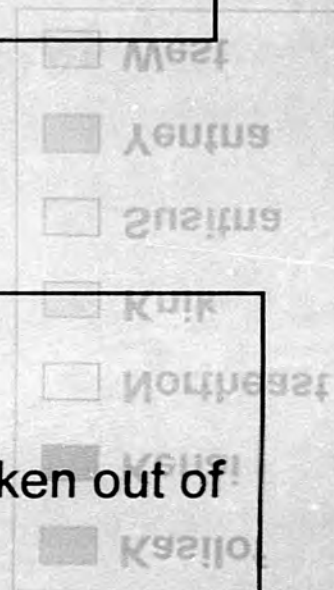


Baseline:

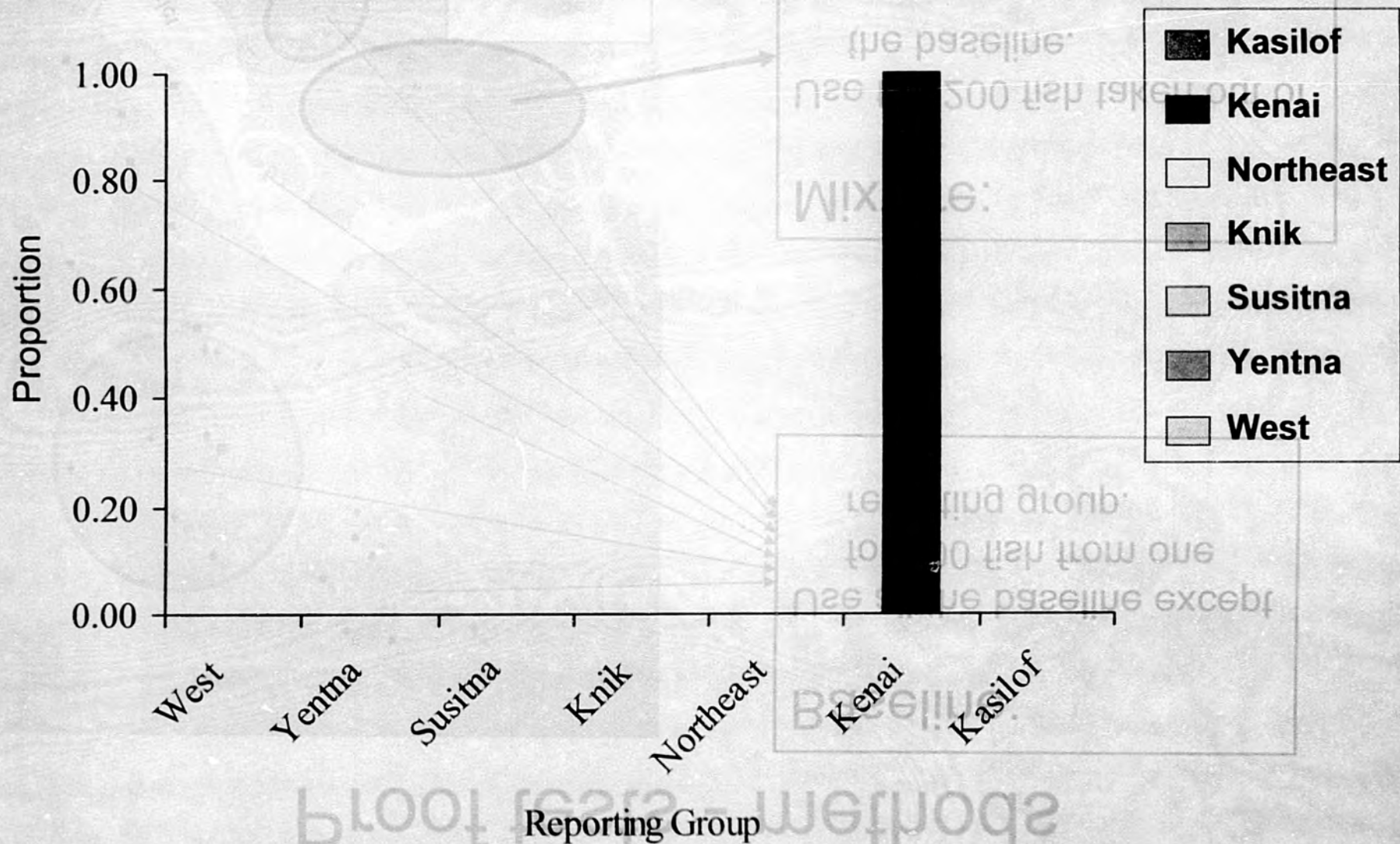
Use all the baseline except for 200 fish from one reporting group.

Mixture:

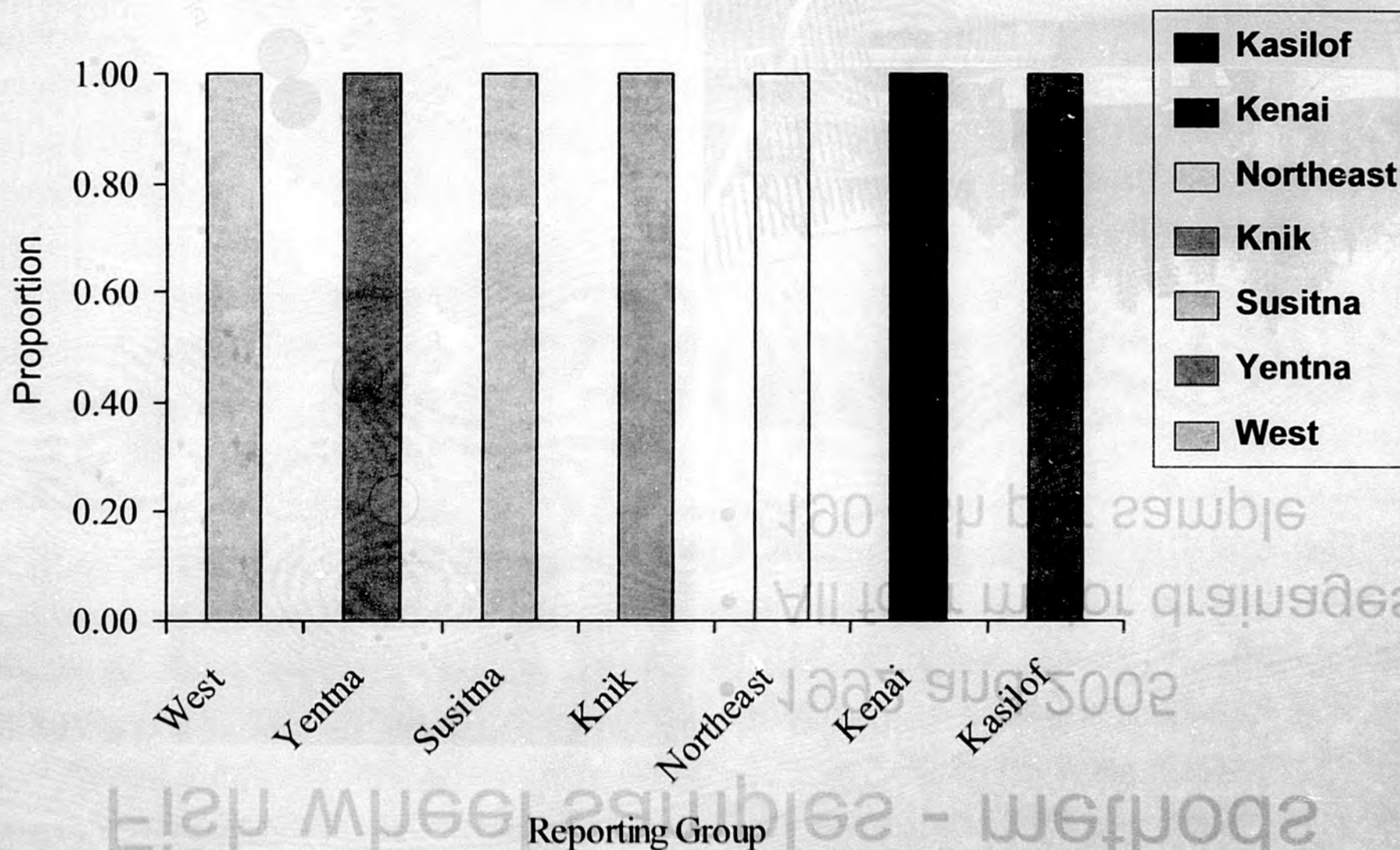
Use the 200 fish taken out of the baseline.



Proof test – Kenai reporting group

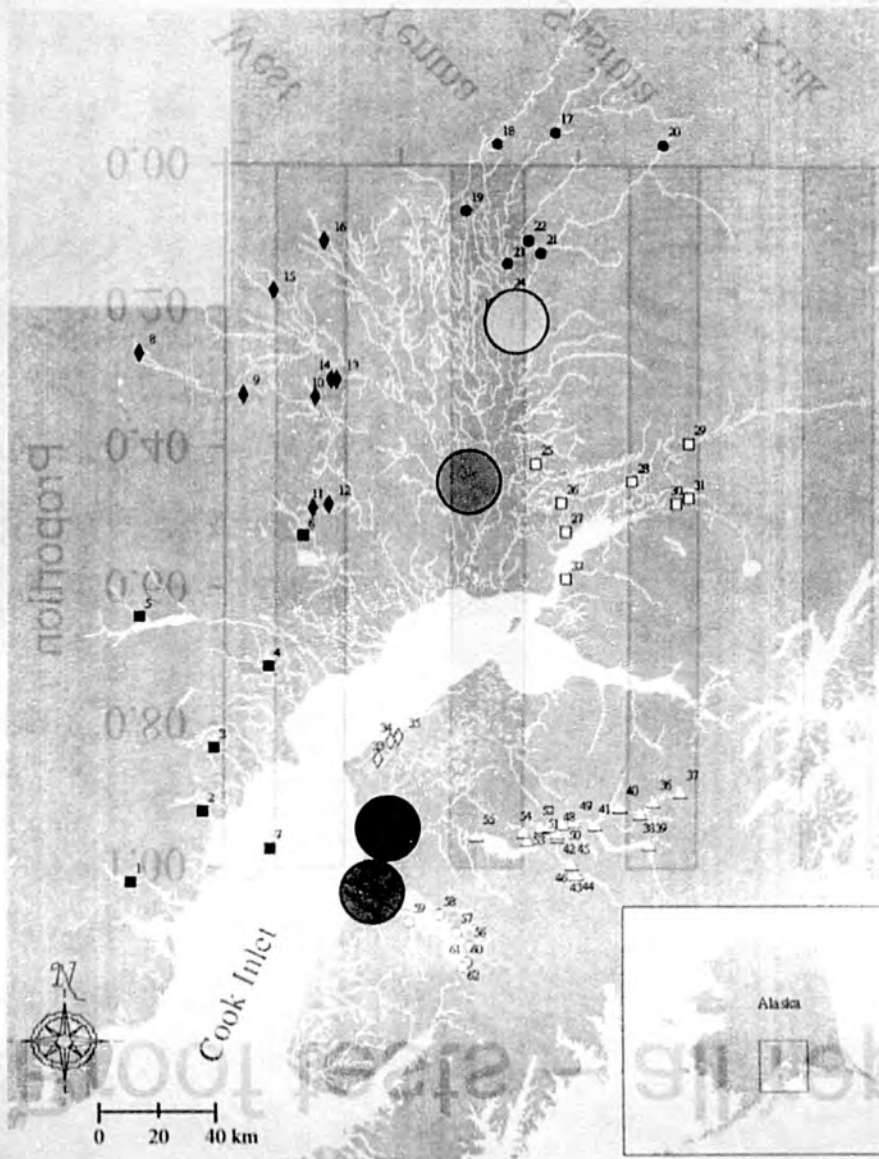


Proof tests – all reporting groups good



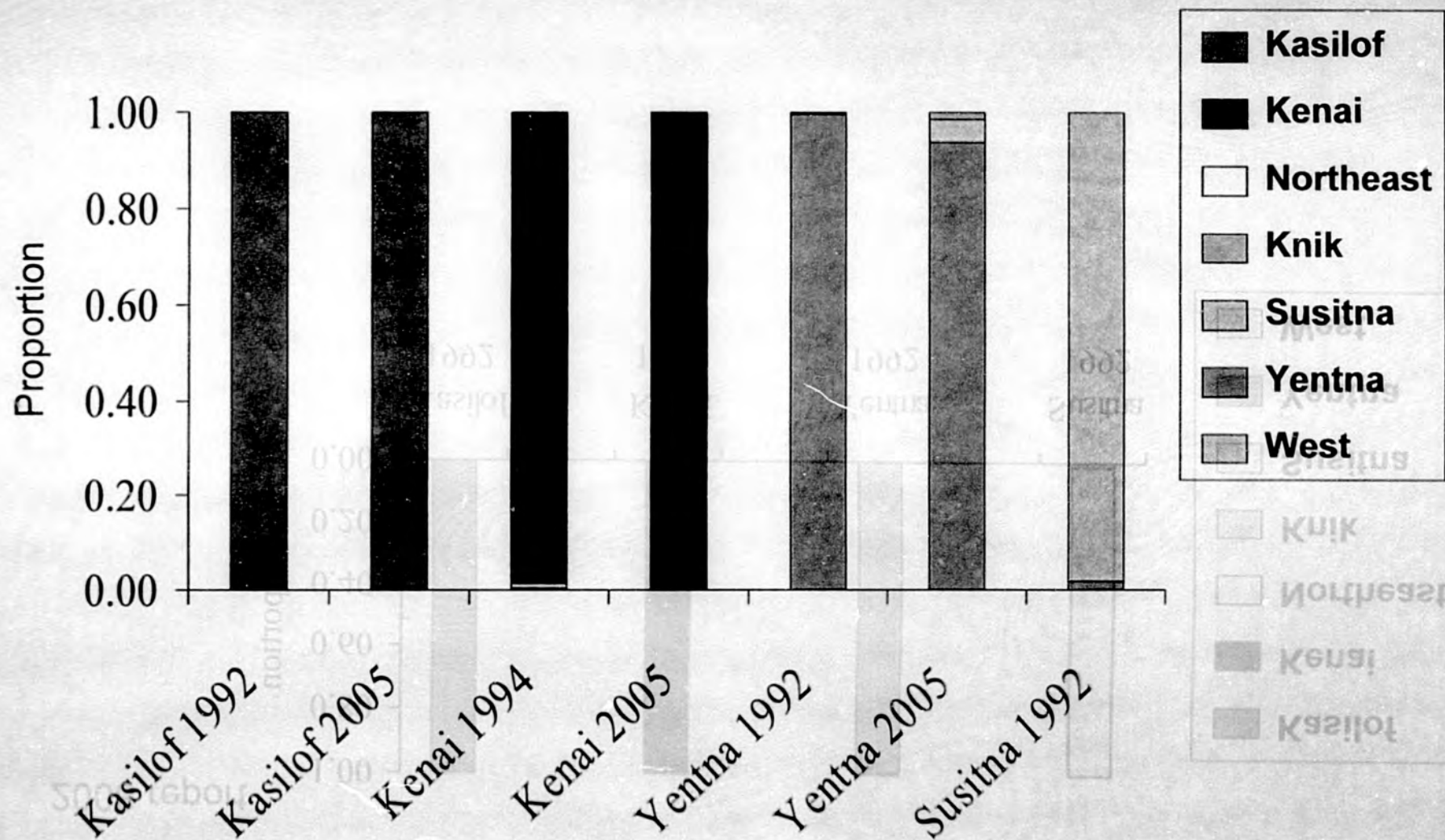
Fish wheel samples - methods

- 1992 and 2005
- All four major drainages
- 190 fish per sample



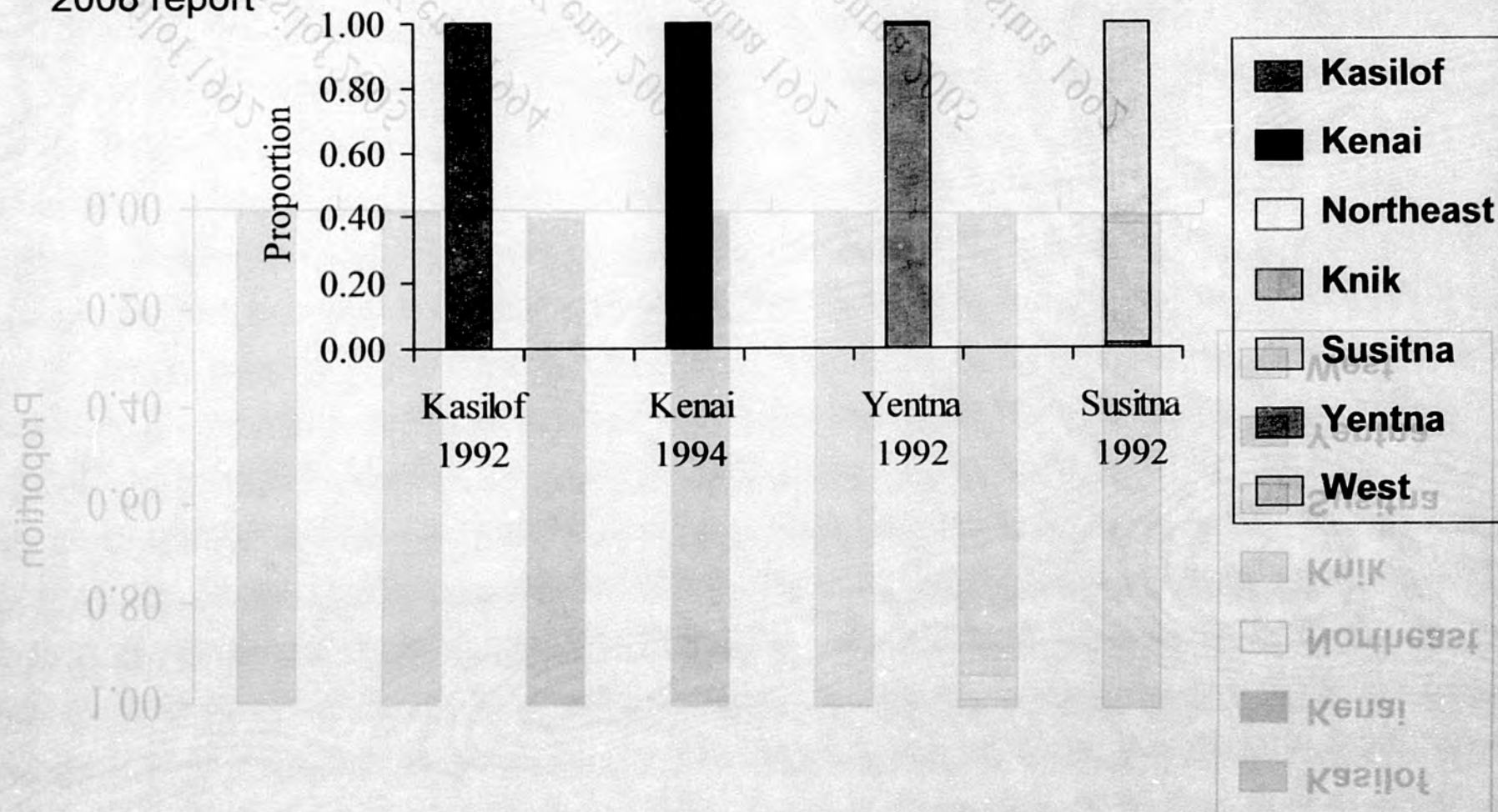
Fish wheel results – baseline near-saturation

15



Fish wheel results – 1990's samples

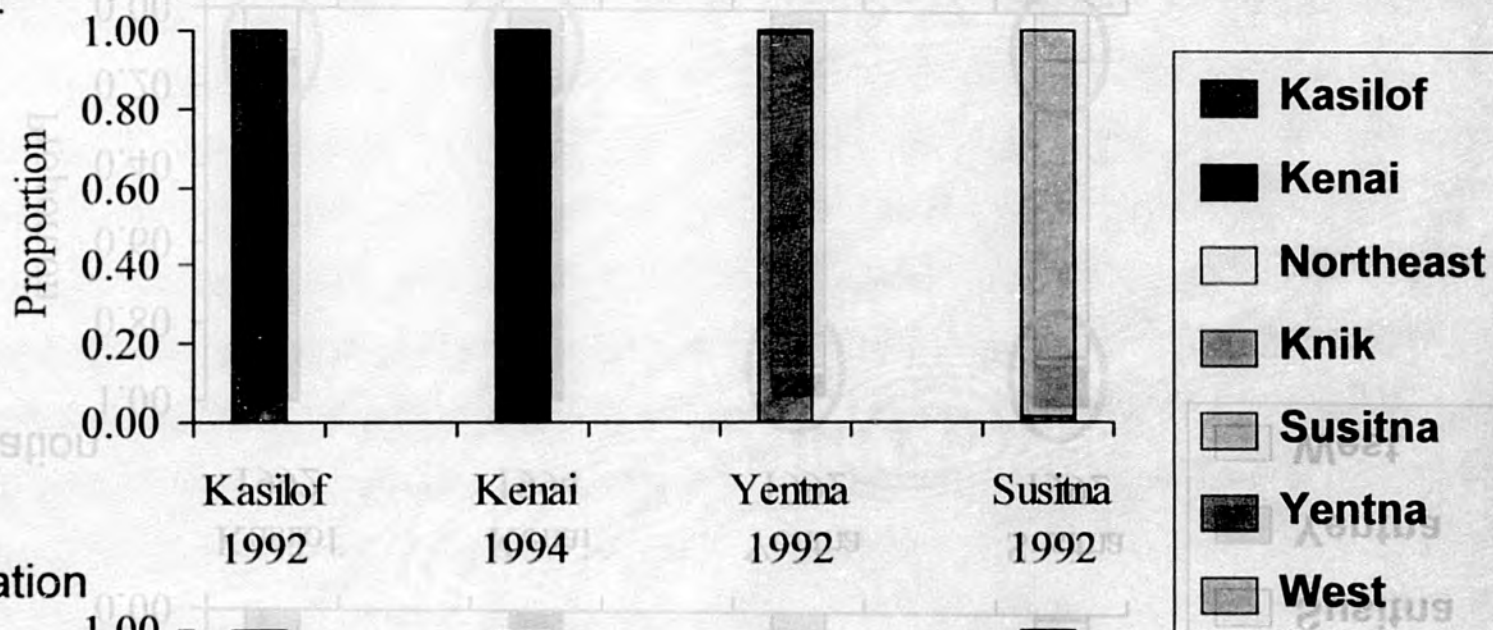
2008 report



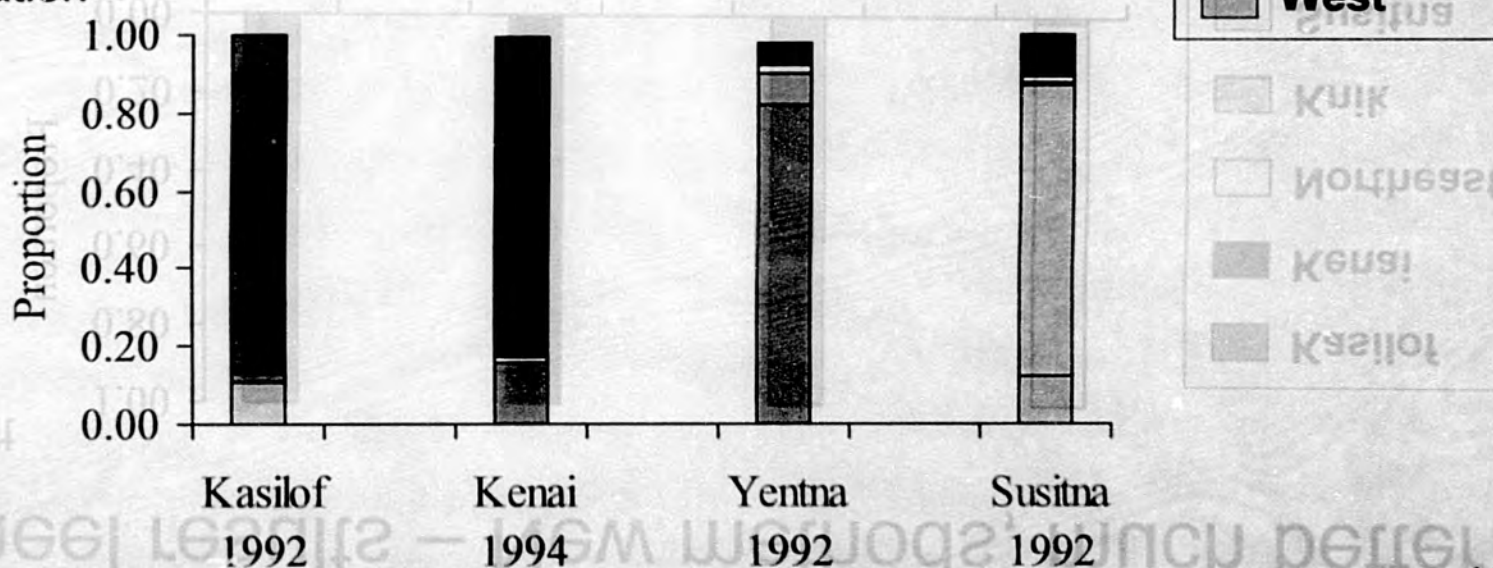
Fish wheel results – baseline near-saturation

Fish wheel results – New methods, much better

2008 report

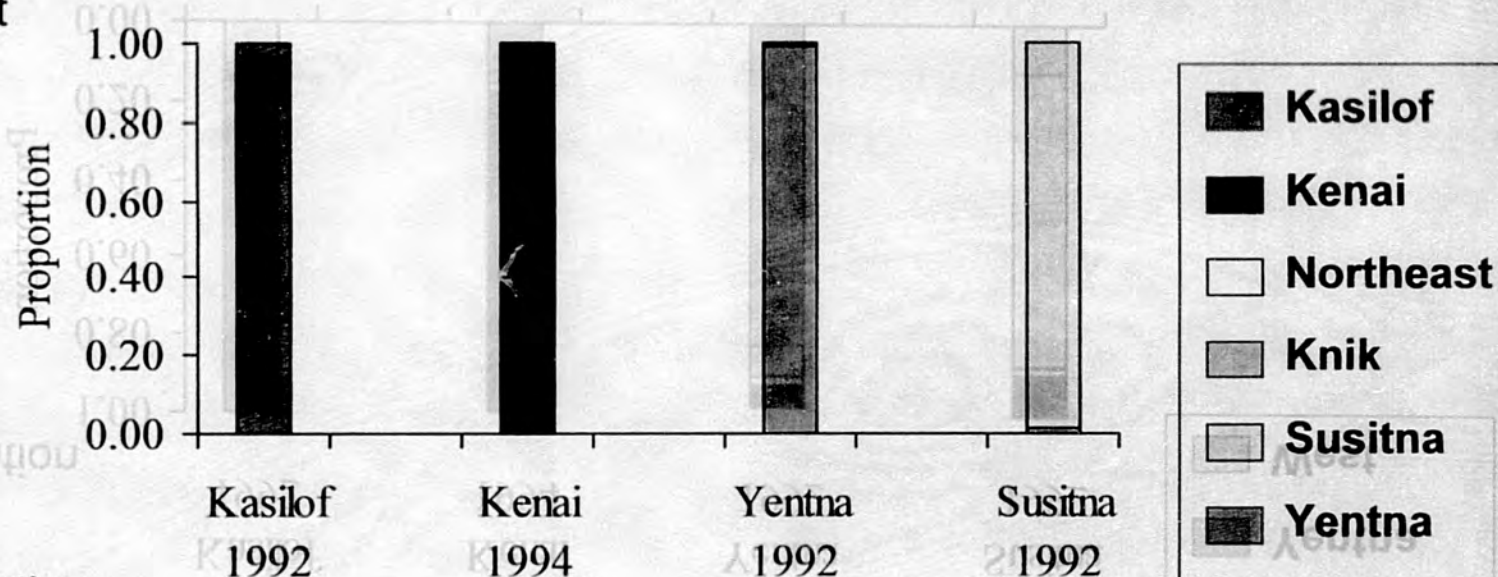


2000 publication

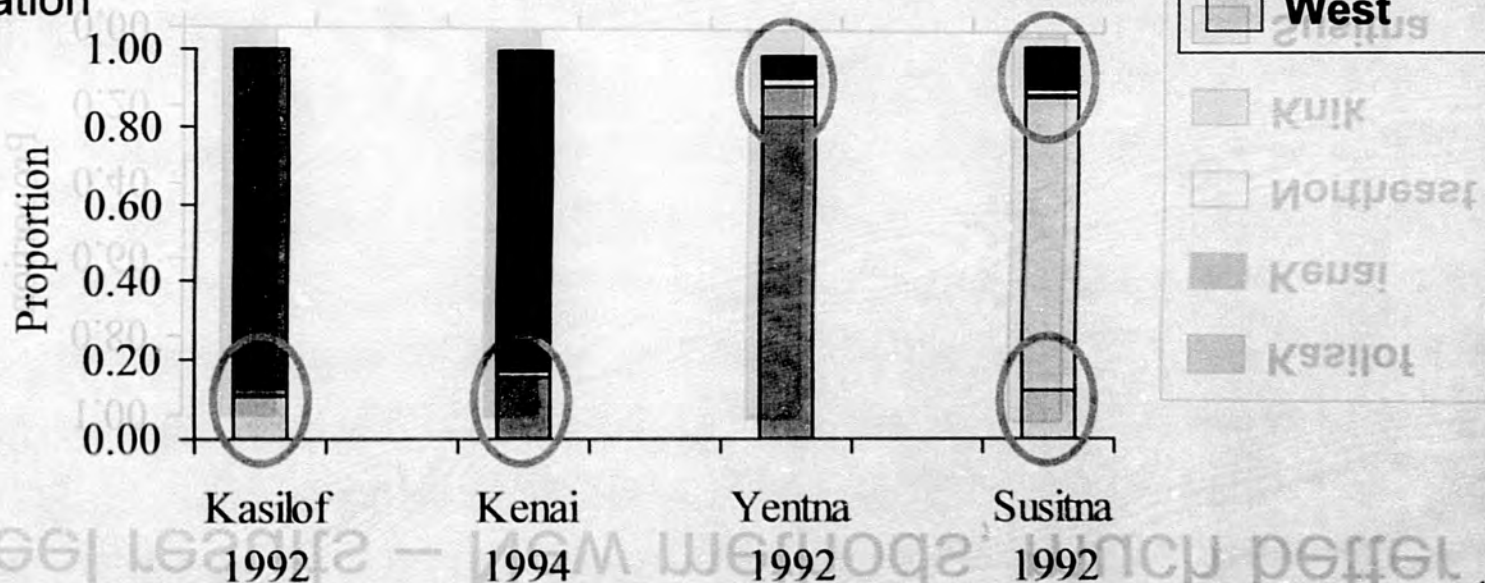


Fish wheel results – New methods, much better

2008 report



2000 publication



Two sources of statistical error

- Genetic error
 - Uncertainty due to use of genetics as a mark.
 - Proof tests and fish wheels indicate these are small.
- Sampling error
 - Uncertainty due to sampling of the harvest.
 - Estimate $\pm 5\%$ of the true value with sample size of 400 fish, 90% of the time ($\pm 7\%$ with 200 fish).
 - Samples need to represent the harvest.

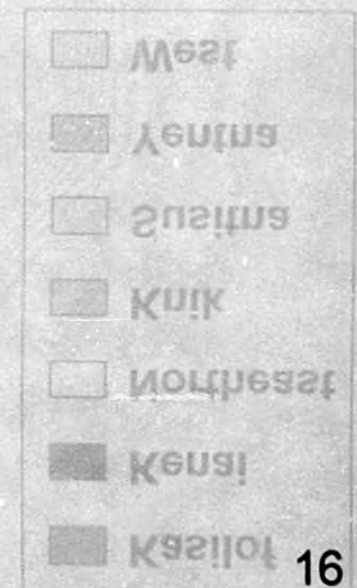
sampling mixtures

Sampling mixtures



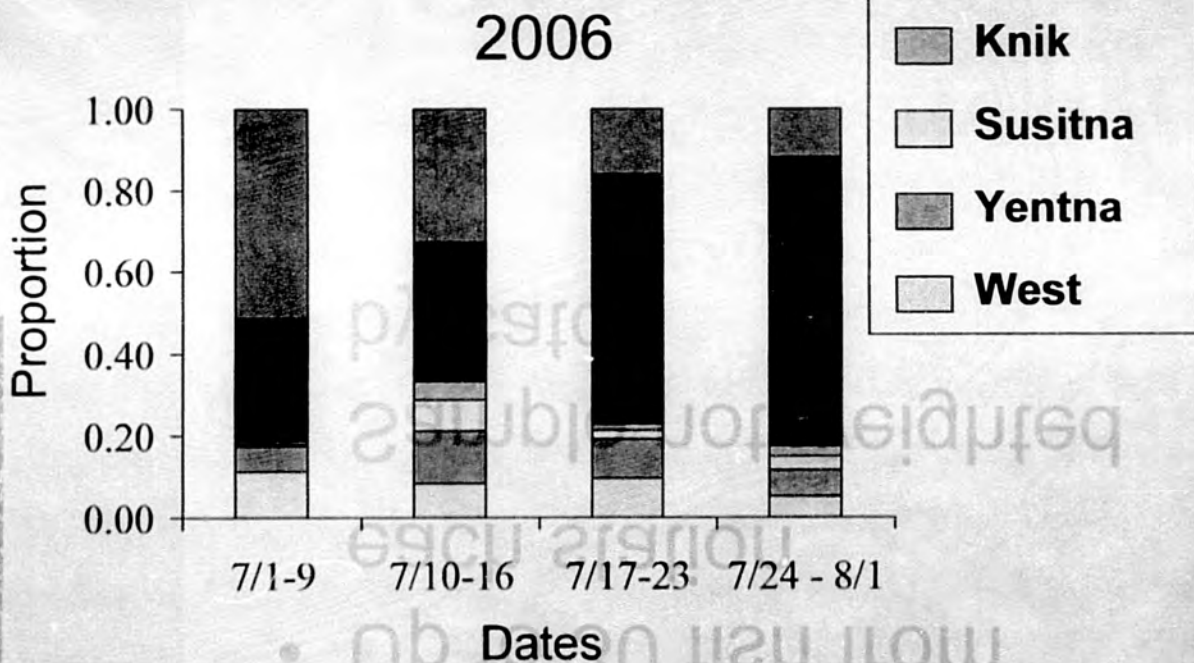
Offshore test fishery - methods

- 2006 and 2007
- Up to 30 fish from each station
- Sample not weighted by catch



Offshore test fishery

Pattern consistent with known run-timing

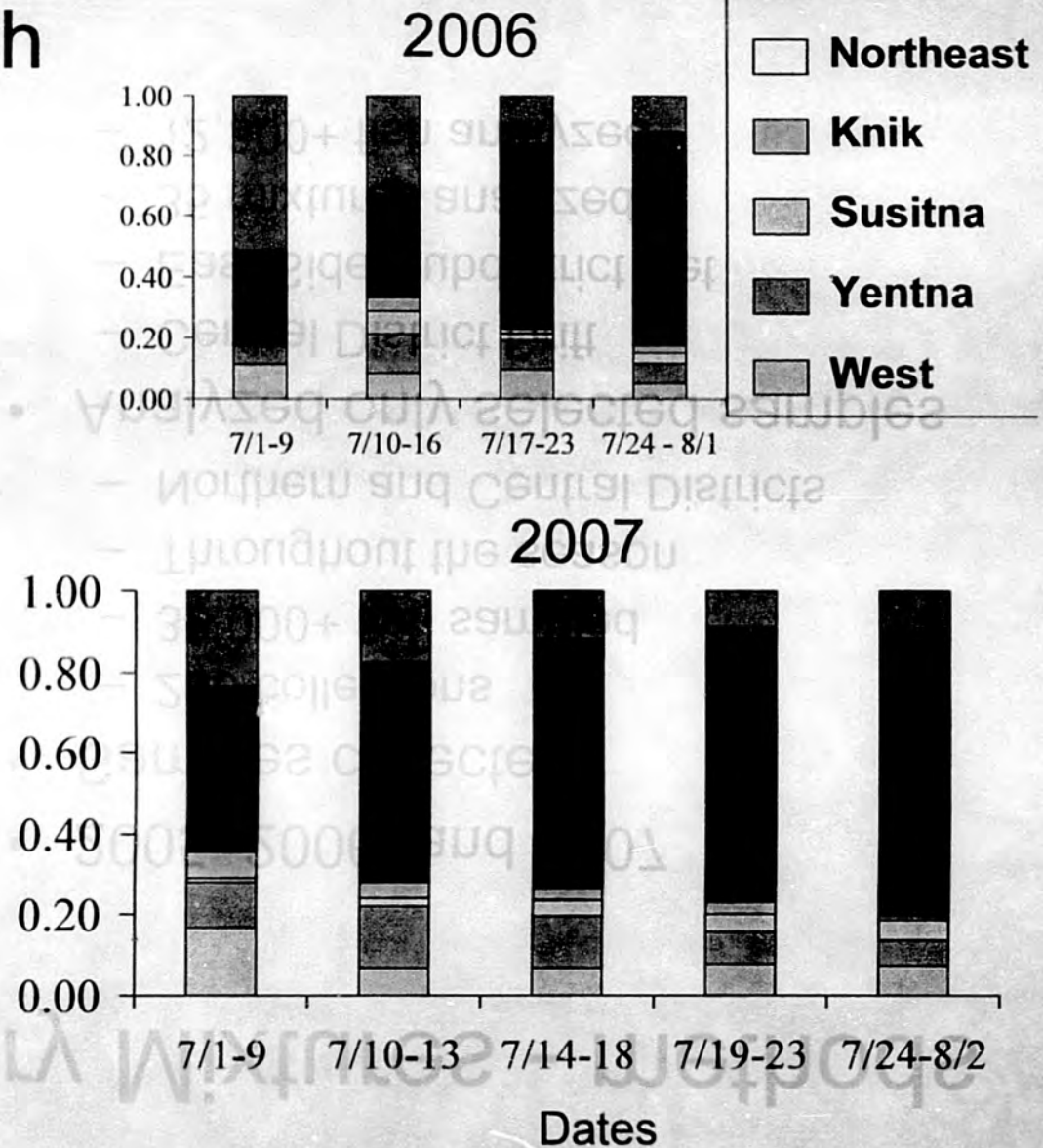


Offshore test fishery

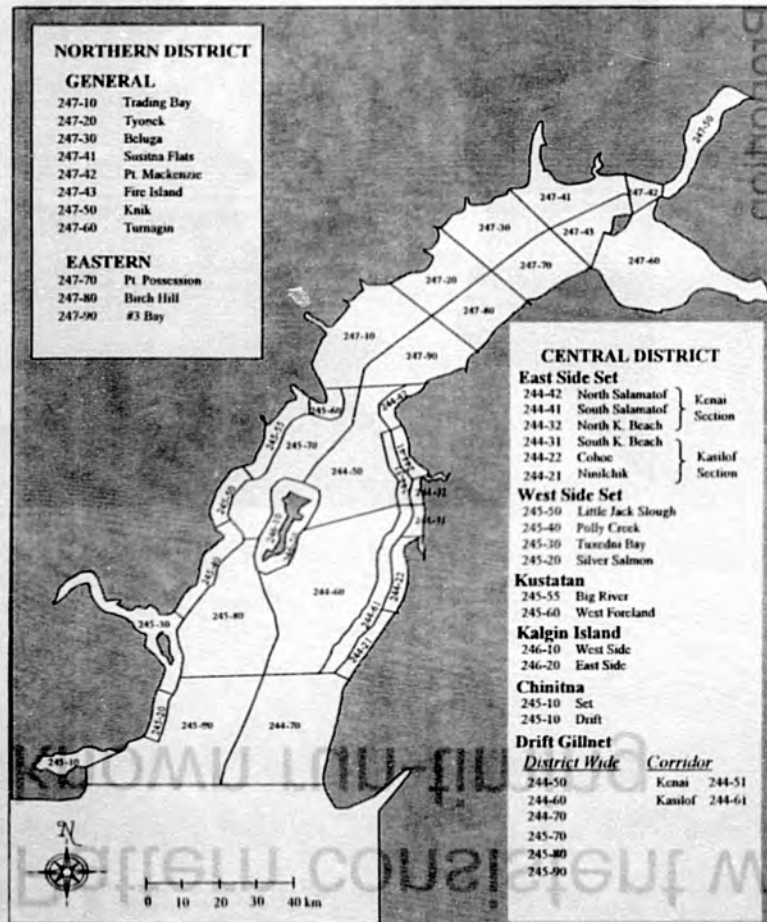
Pattern consistent with known run-timing



Proportion

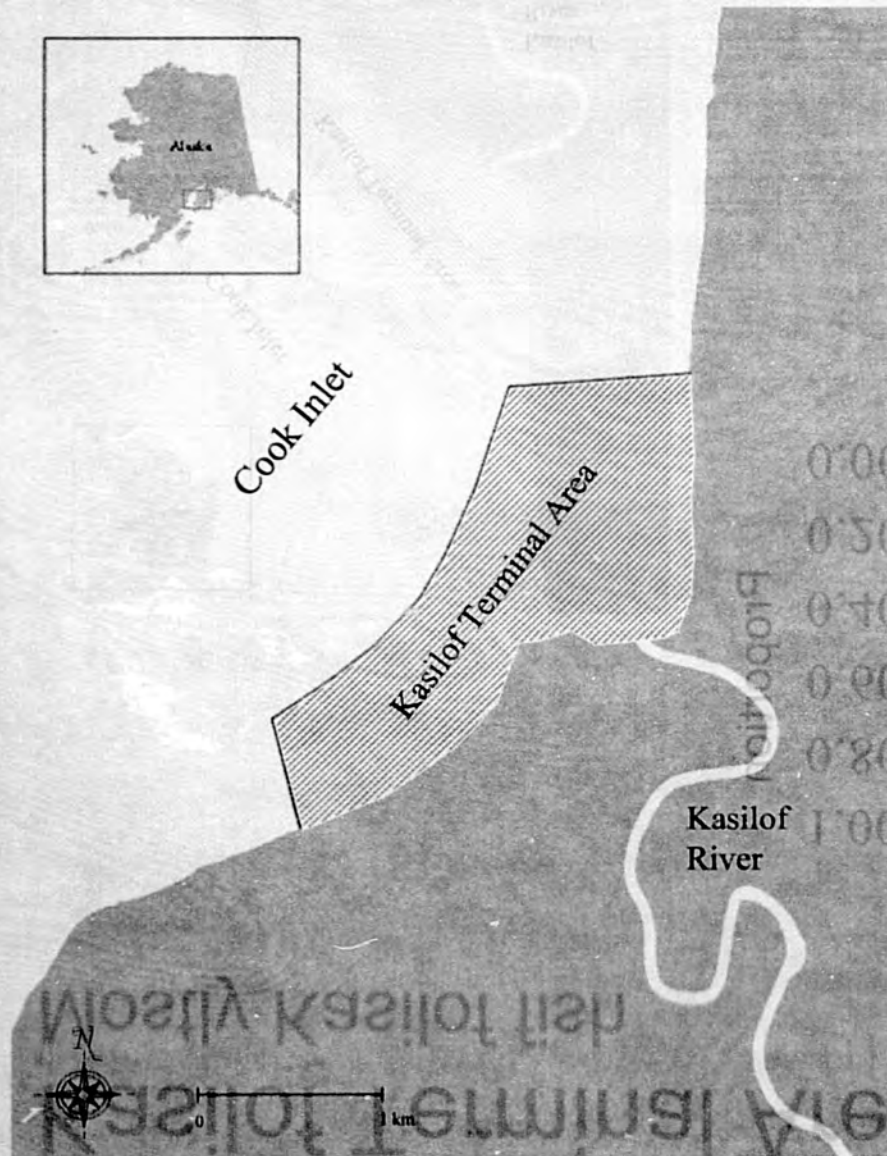


Sampling Fishery Mixtures - methods

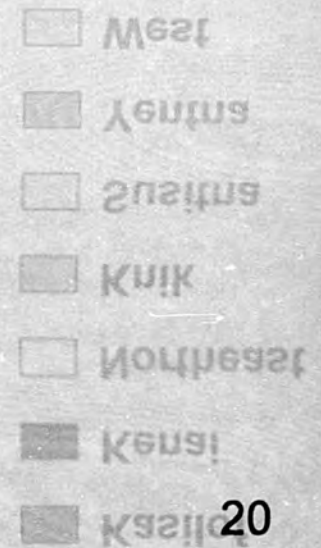


- 2005, 2006, and 2007
- Samples collected
 - 230 collections
 - 39,000+ fish sampled
 - Throughout the season
 - Northern and Central Districts
- Analyzed only selected samples
 - Central District Drift
 - East Side Subdistrict Set
 - 35 mixtures analyzed
 - 12,300+ fish analyzed

Kasilof Terminal Area - methods



- Only 2006
- Drift gillnet
- Set gillnet
- Two periods sampled
- One period analyzed



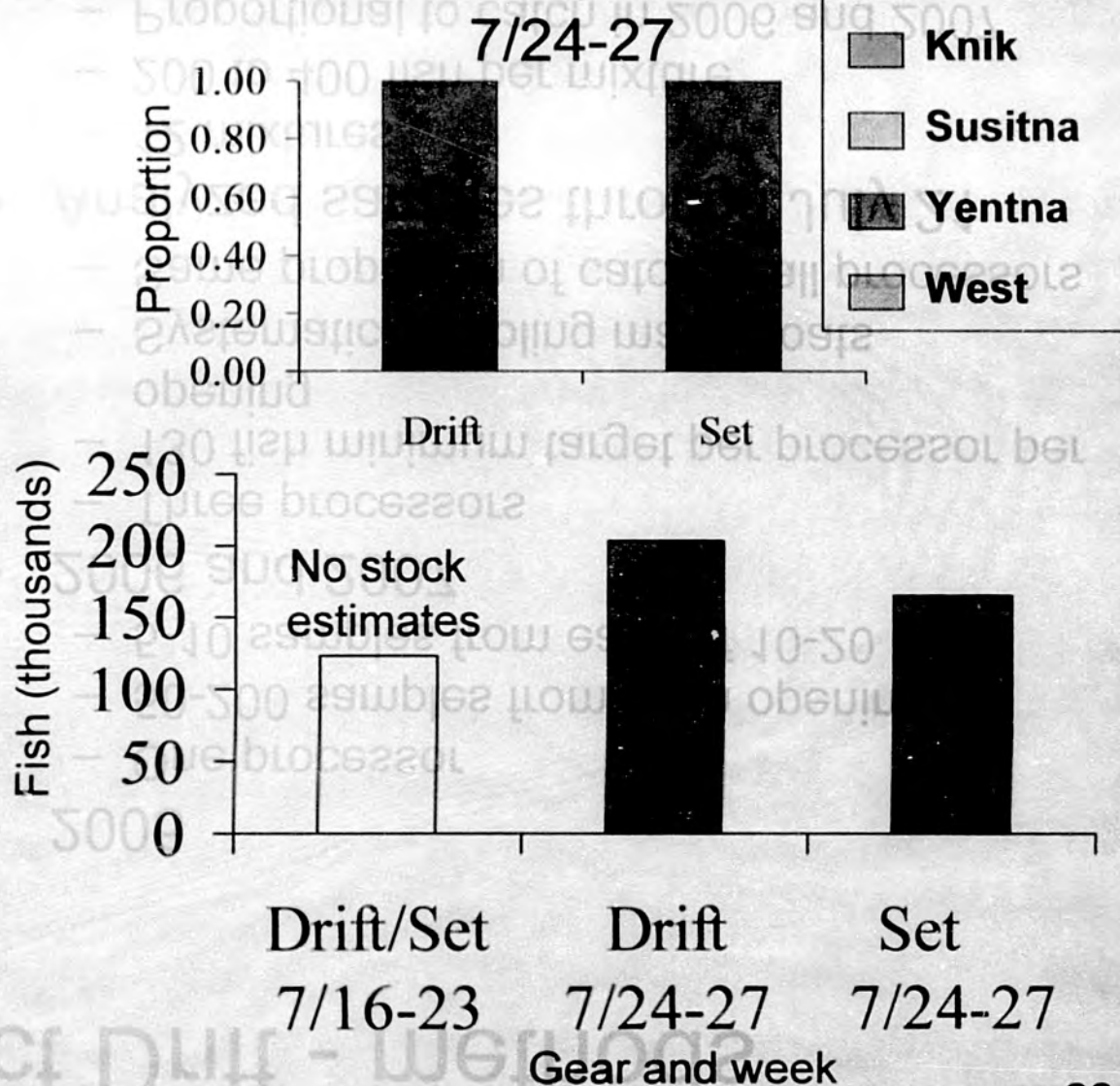
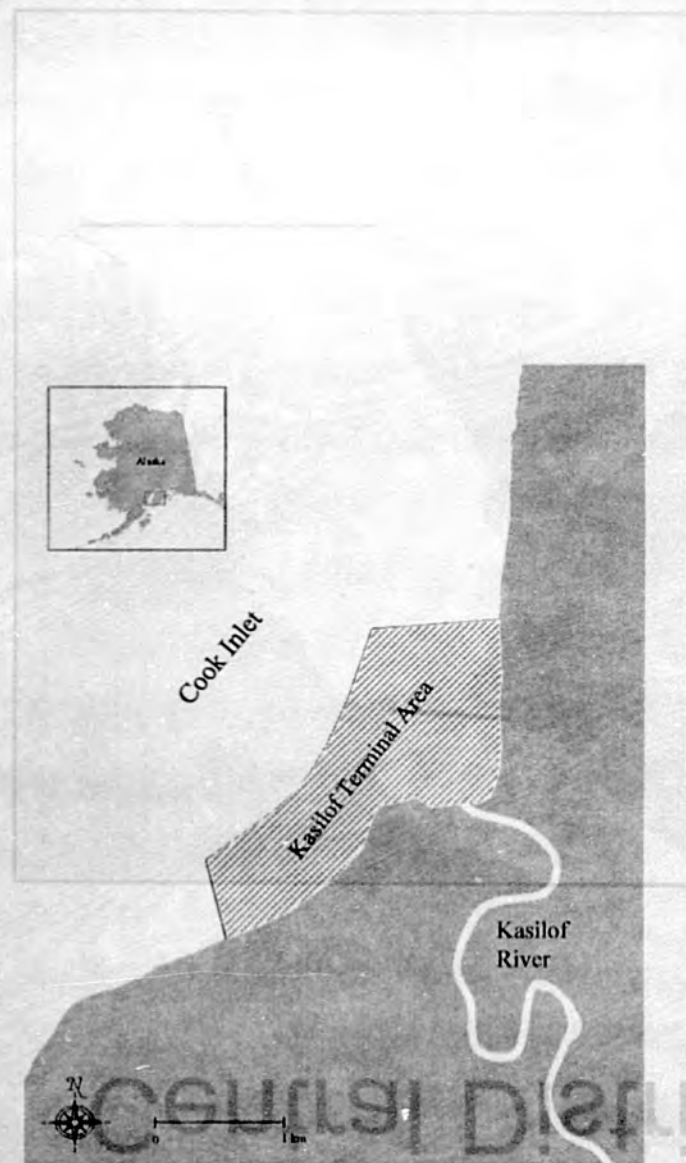
Kasilof Terminal Area

Mostly Kasilof fish

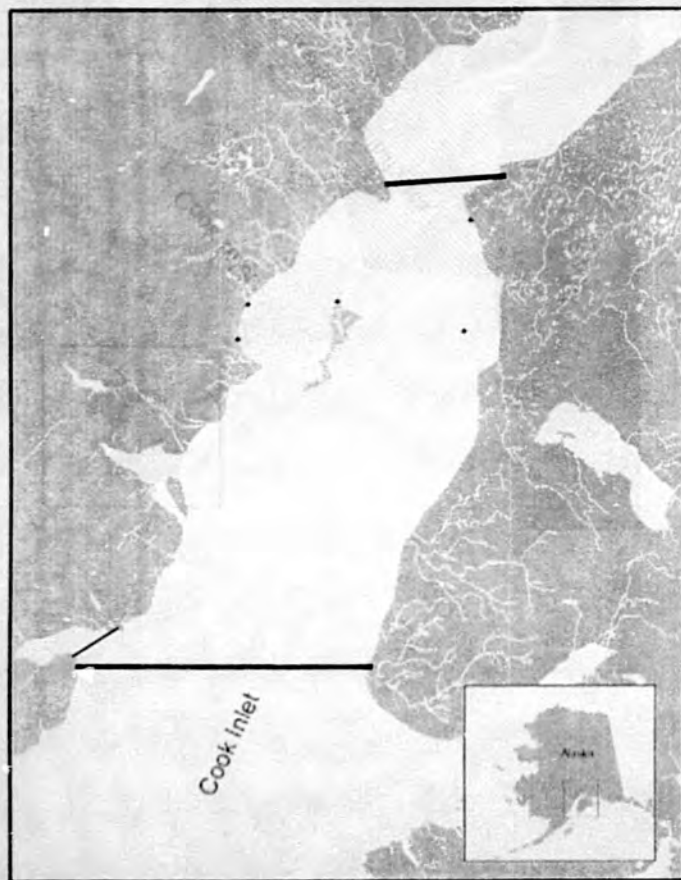


Kasilof Terminal Area

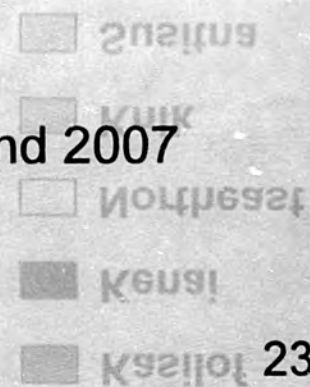
No early period estimates



Central District Drift - methods

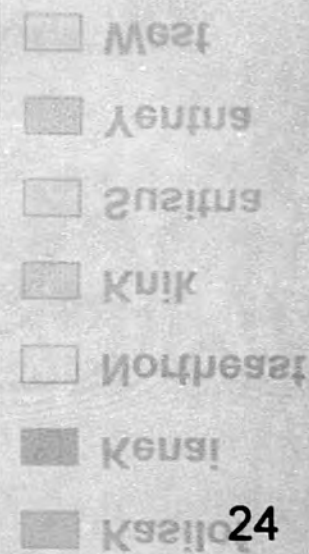
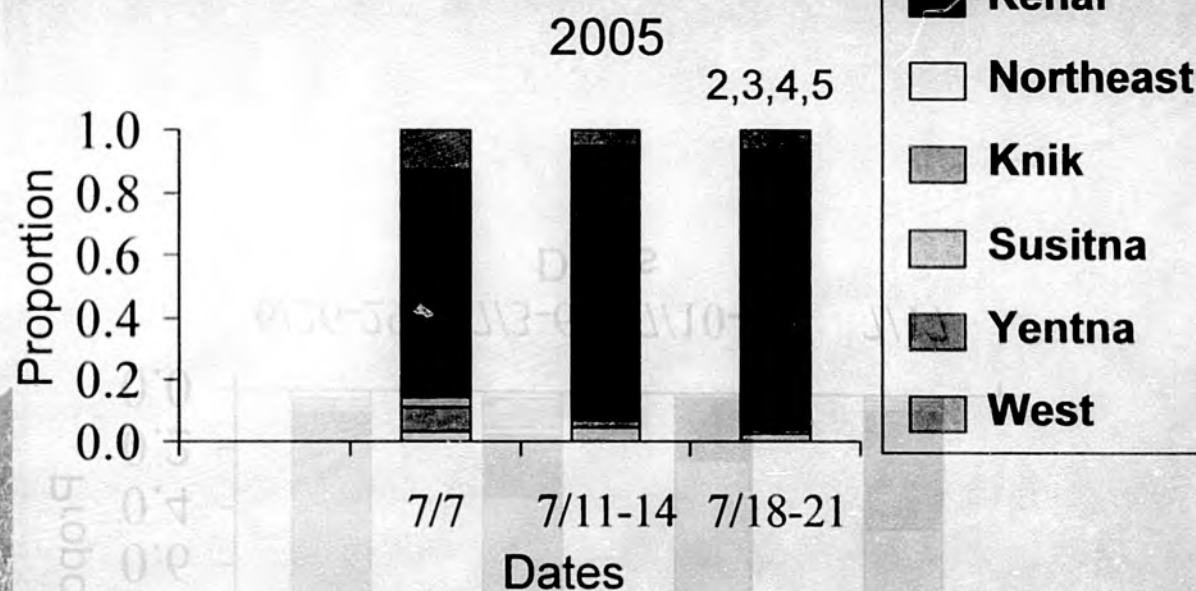
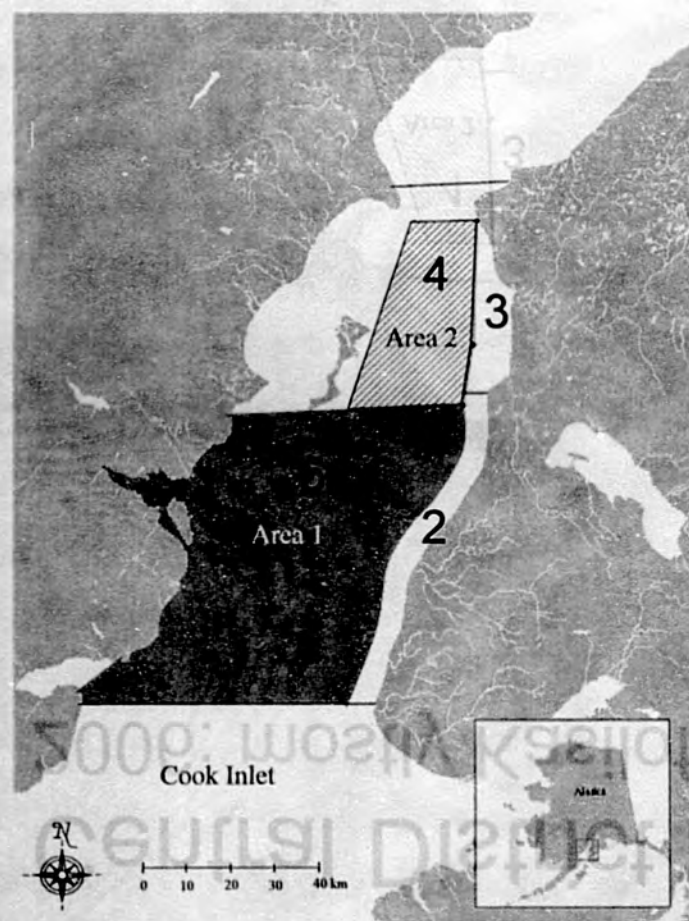


- 2005
 - One processor
 - 50-200 samples from each opening
 - 5-10 samples from each of 10-20 boats
- 2006 and 2007
 - Three processors
 - 130 fish minimum target per processor per opening
 - Systematic sampling many boats
 - Same proportion of catch at all processors
- Analyzed samples through July 21
 - 12 mixtures
 - 200 to 400 fish per mixture
 - Proportional to catch in 2006 and 2007



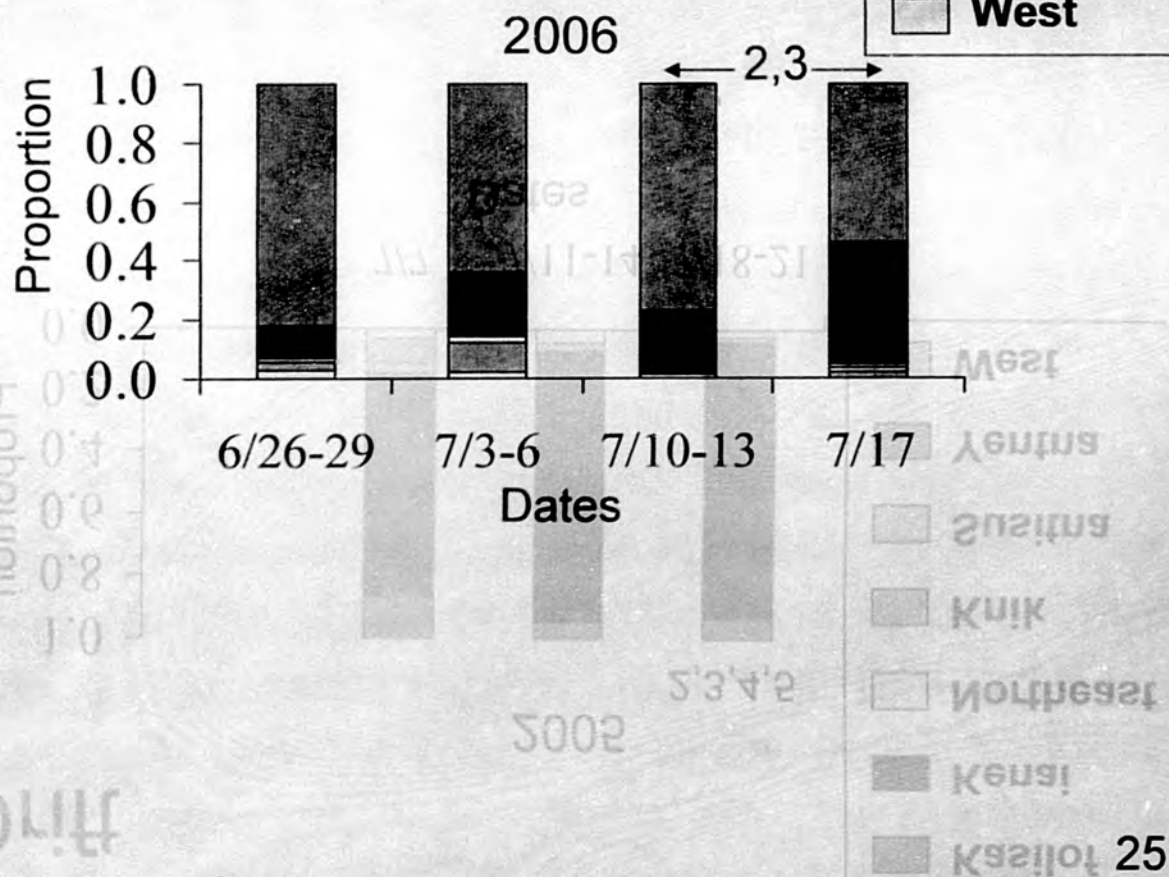
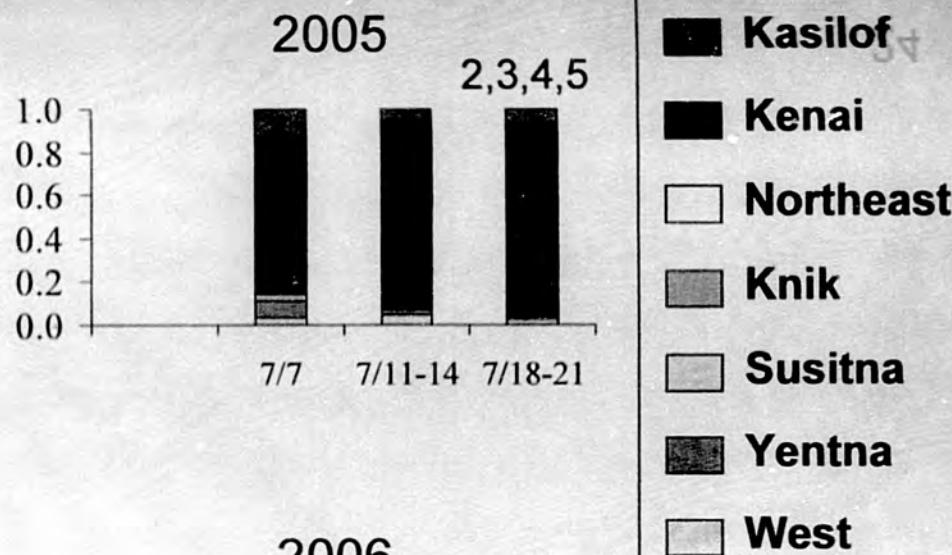
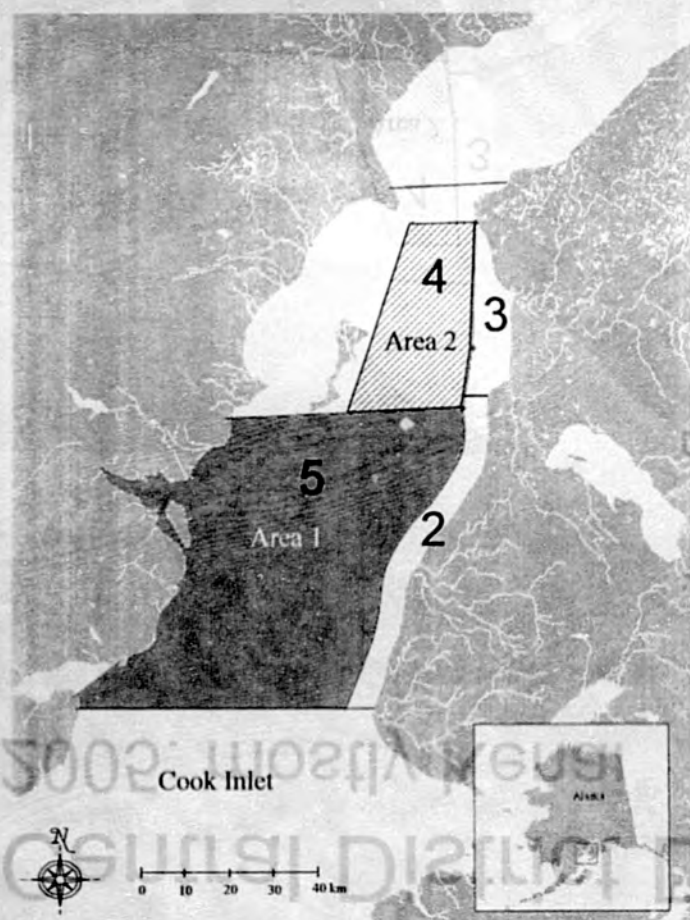
Central District Drift

2005: mostly Kenai



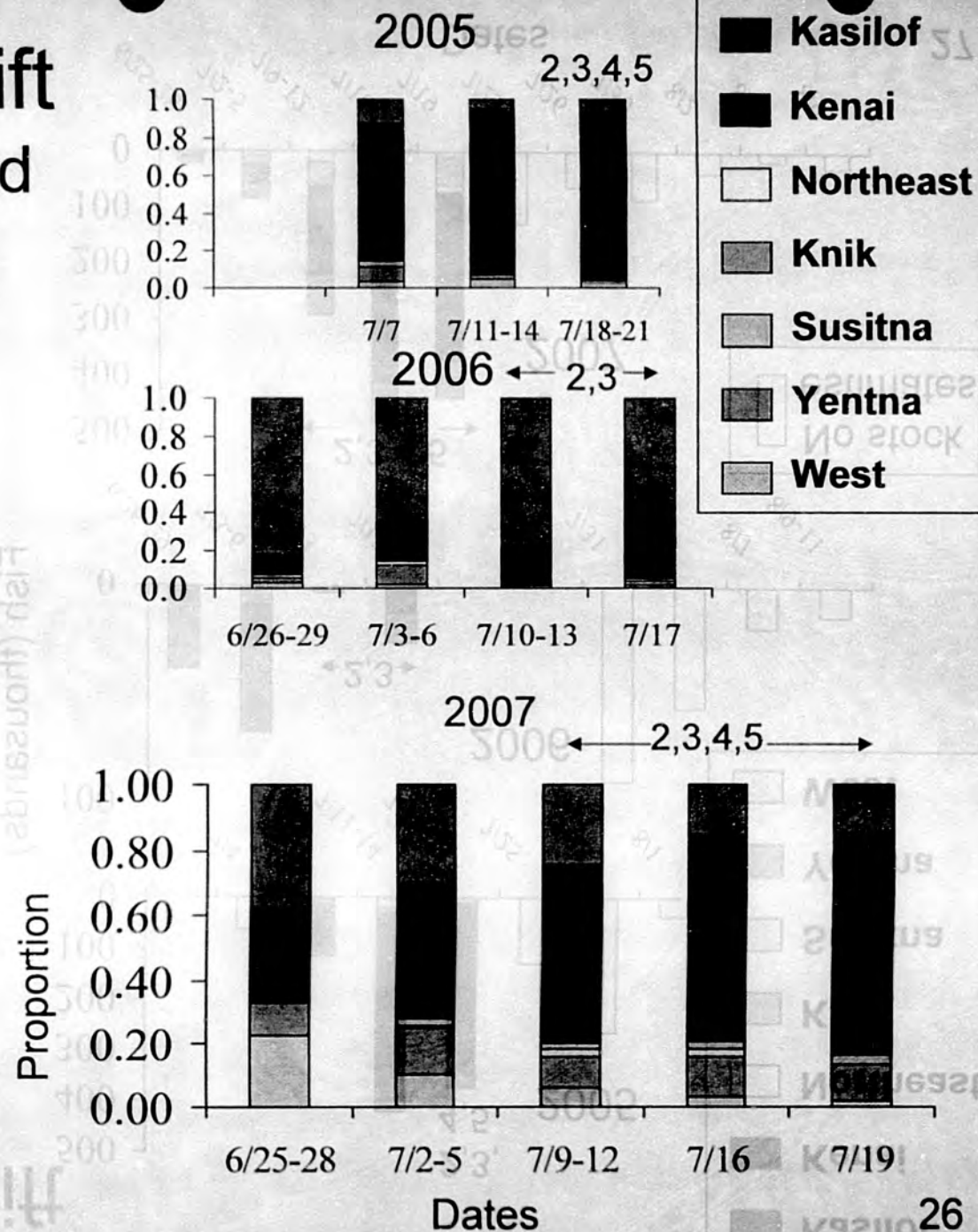
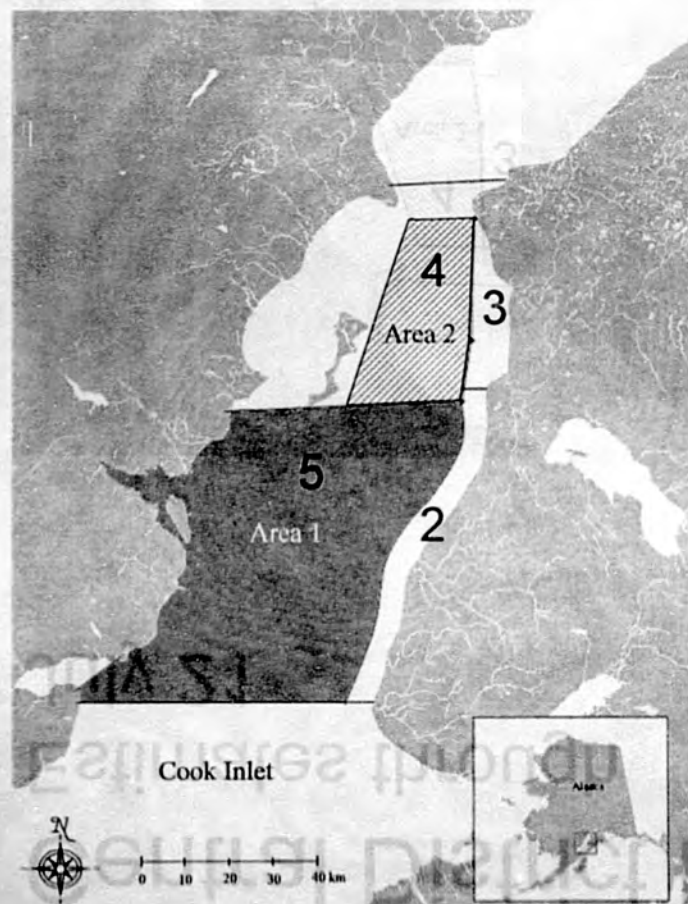
Central District Drift

2006: mostly Kasilof



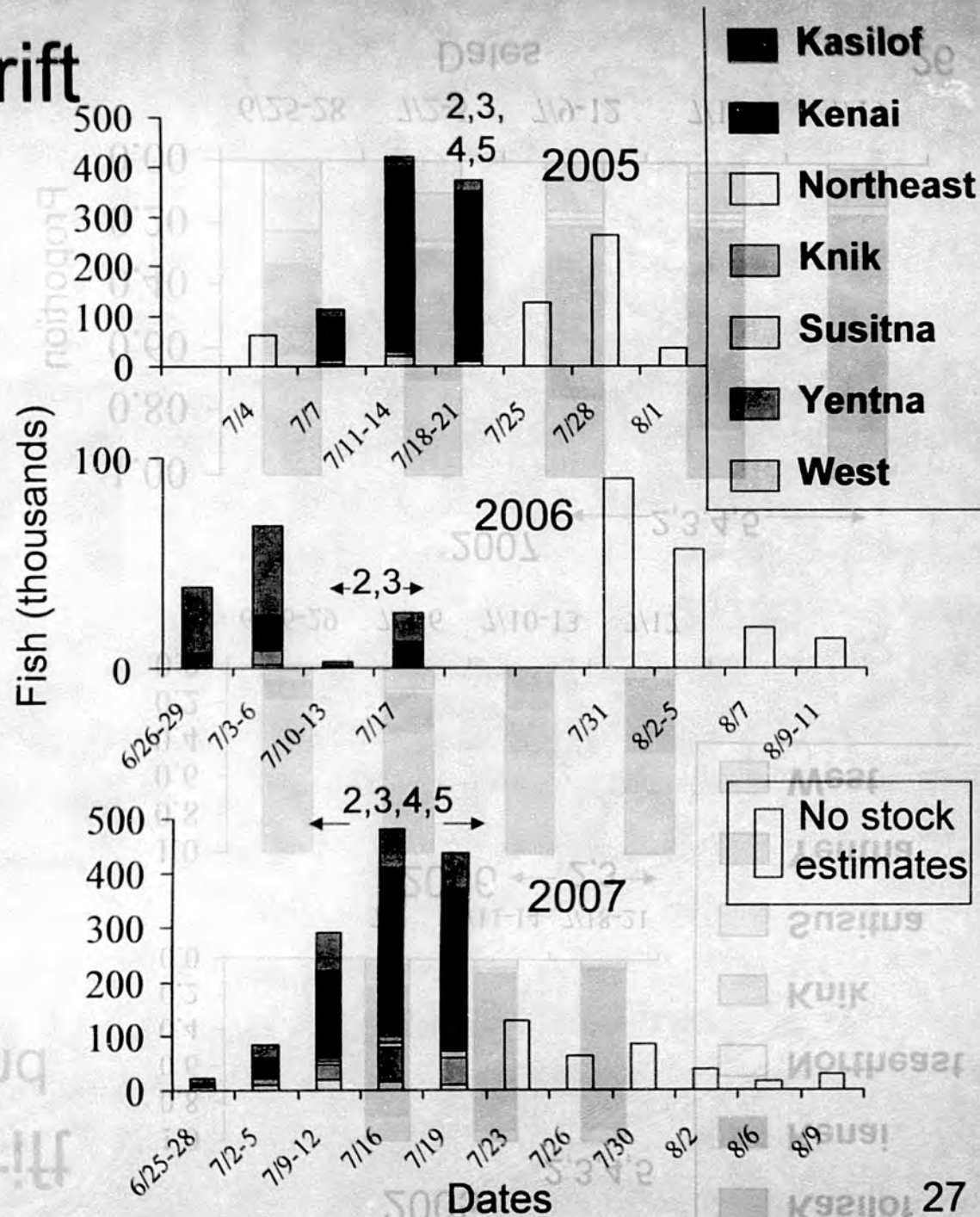
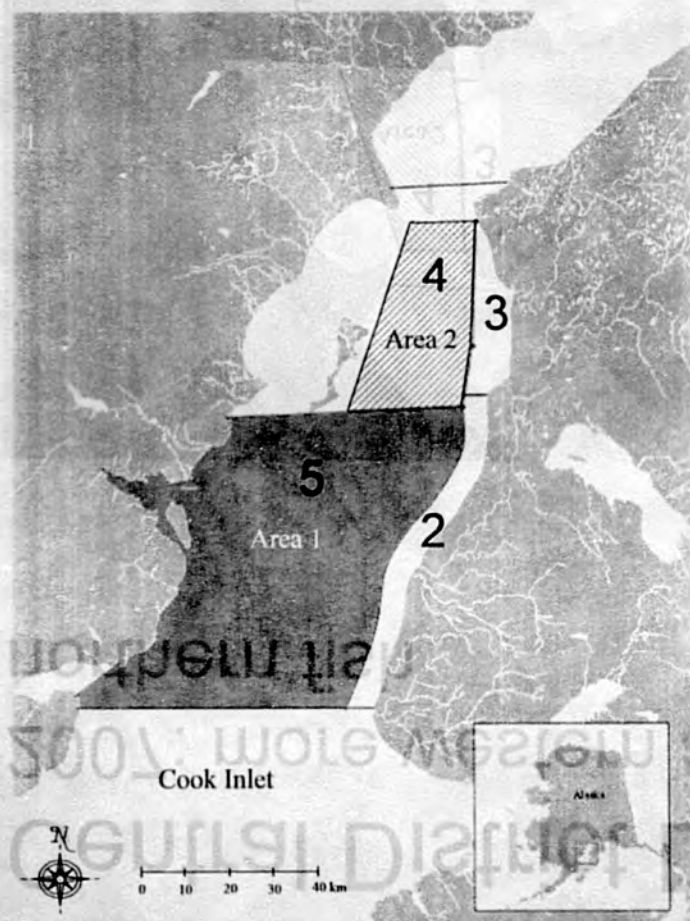
Central District Drift

2007: more western and northern fish

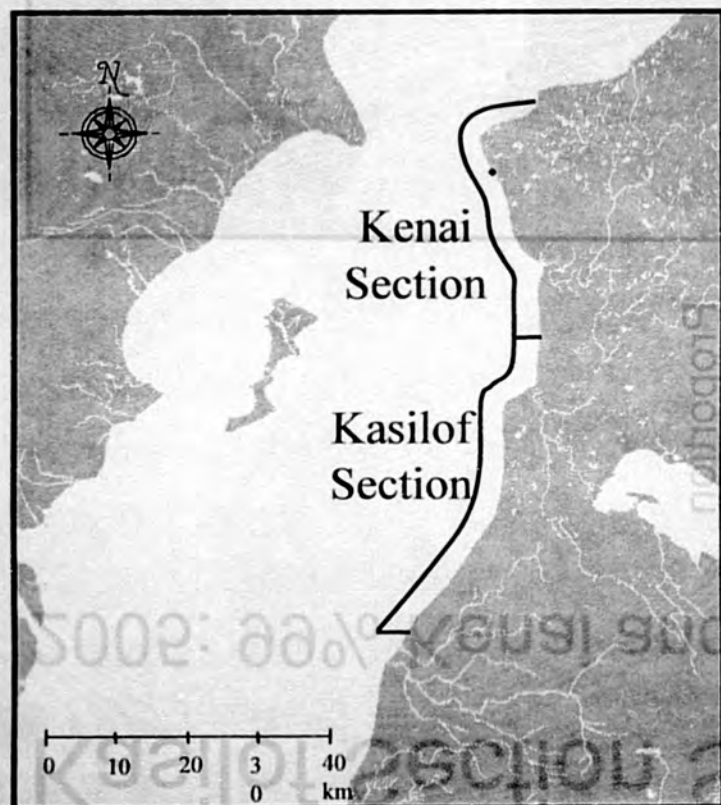


Central District Drift

Estimates through July 21



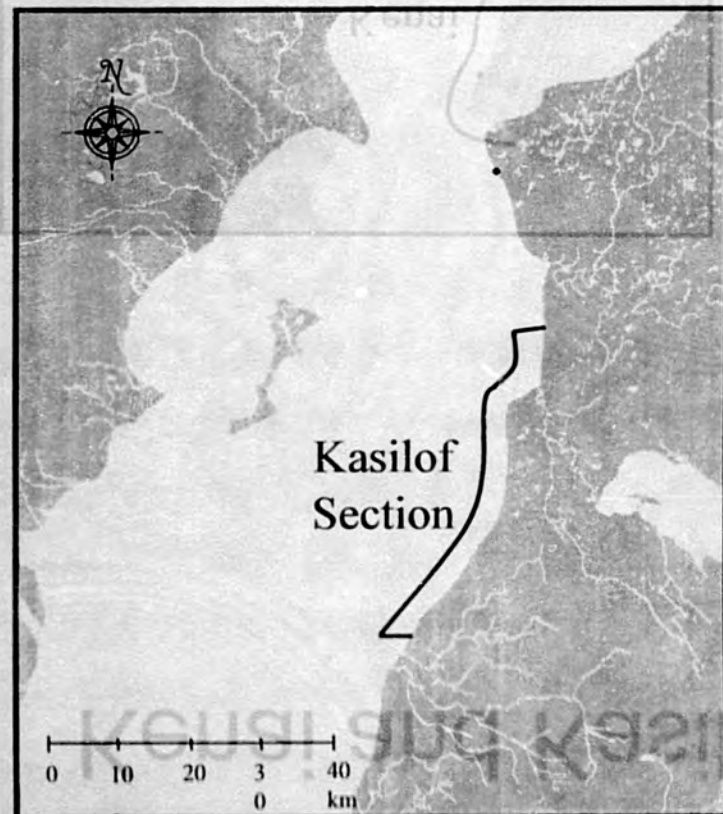
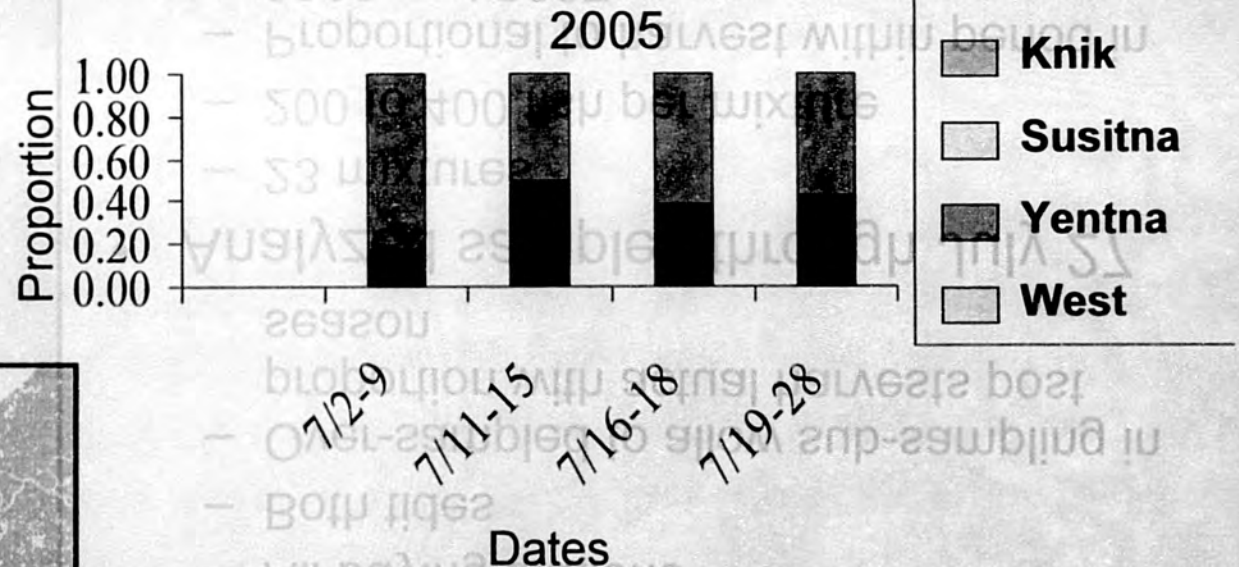
Kenai and Kasilof Section Set - methods



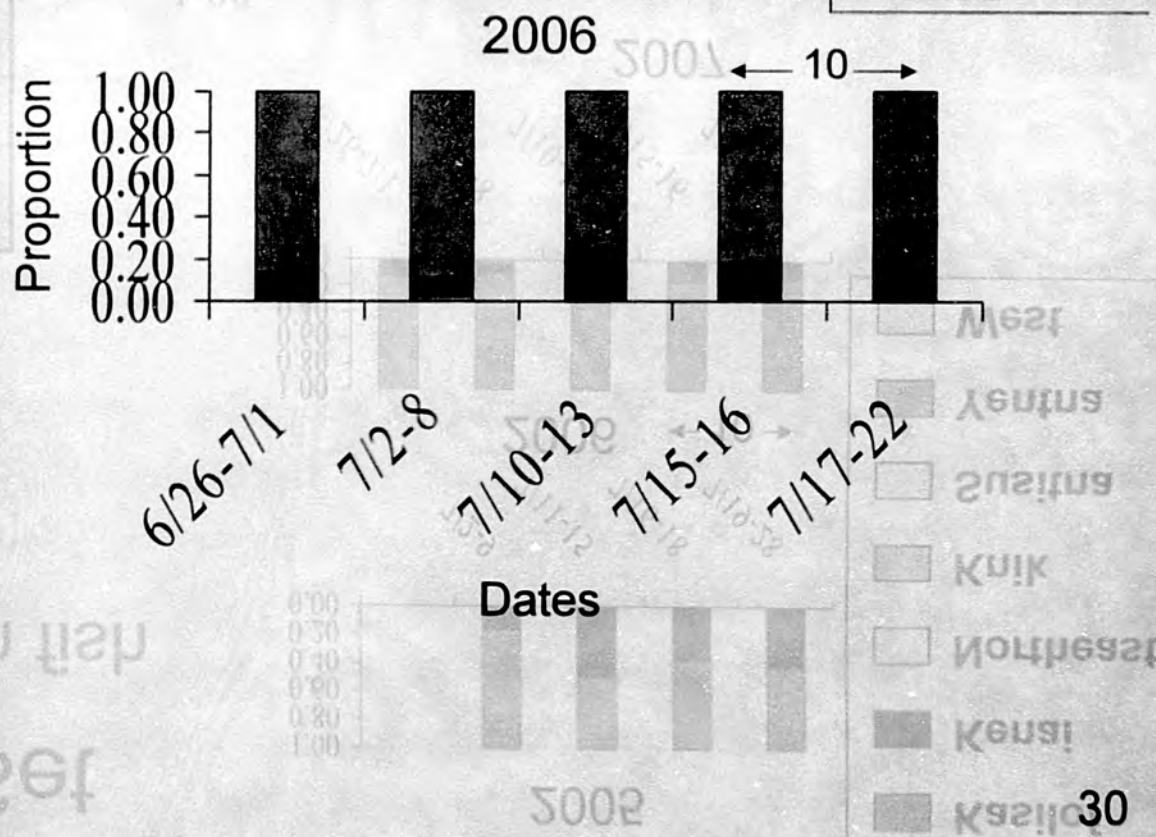
- 2005
 - All buying stations
 - Both tides
 - In proportion to historical averages
- 2006 and 2007
 - All buying stations
 - Both tides
 - Over-sampled to allow sub-sampling in proportion with actual harvests post season
- Analyzed samples through July 27
 - 23 mixtures
 - 200 to 400 fish per mixture
 - Proportional to harvest within period in 2006 and 2007

Kasilof Section Set

2005: 99% Kenai and Kasilof

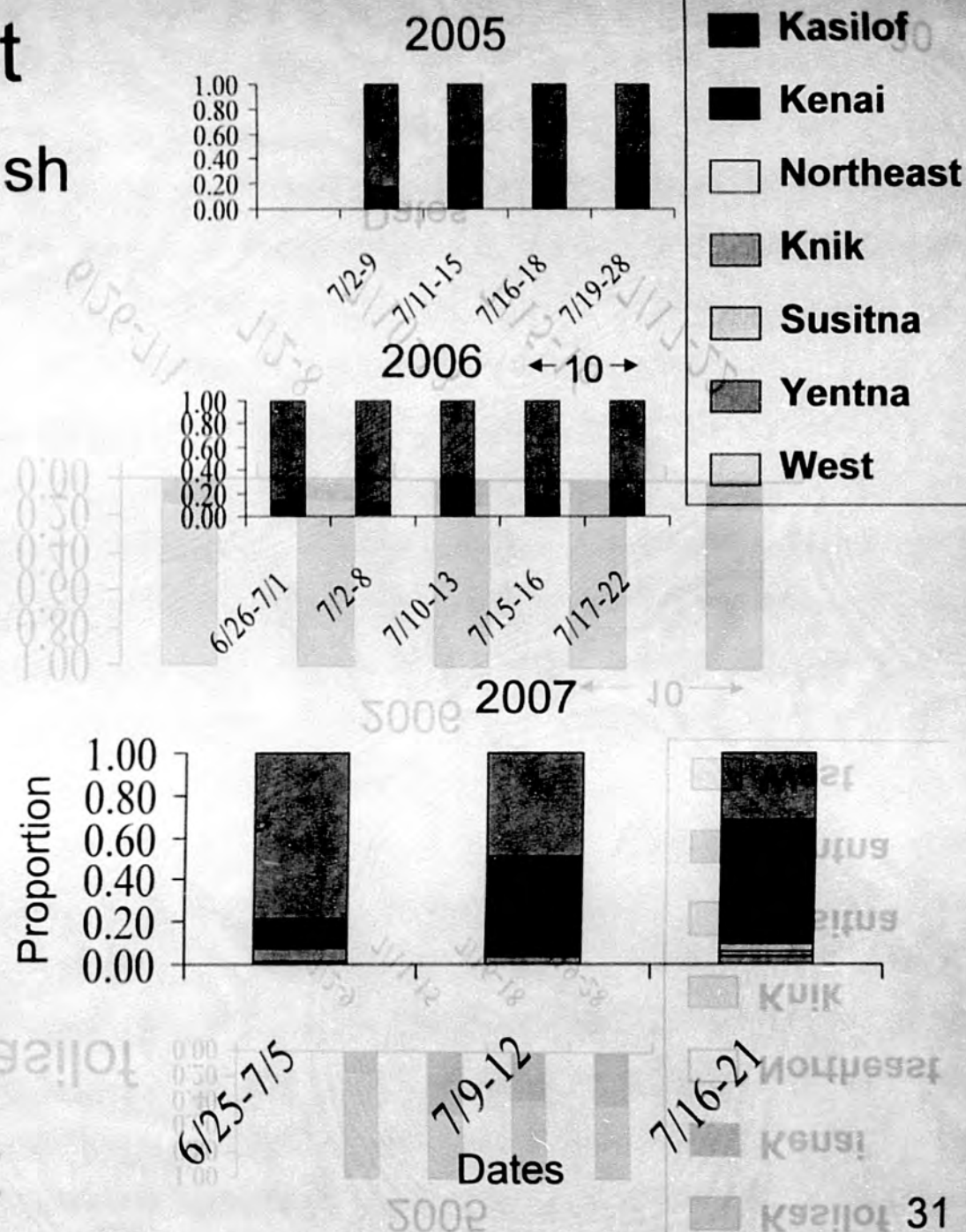


2006: 99% Kenai and Kasilof



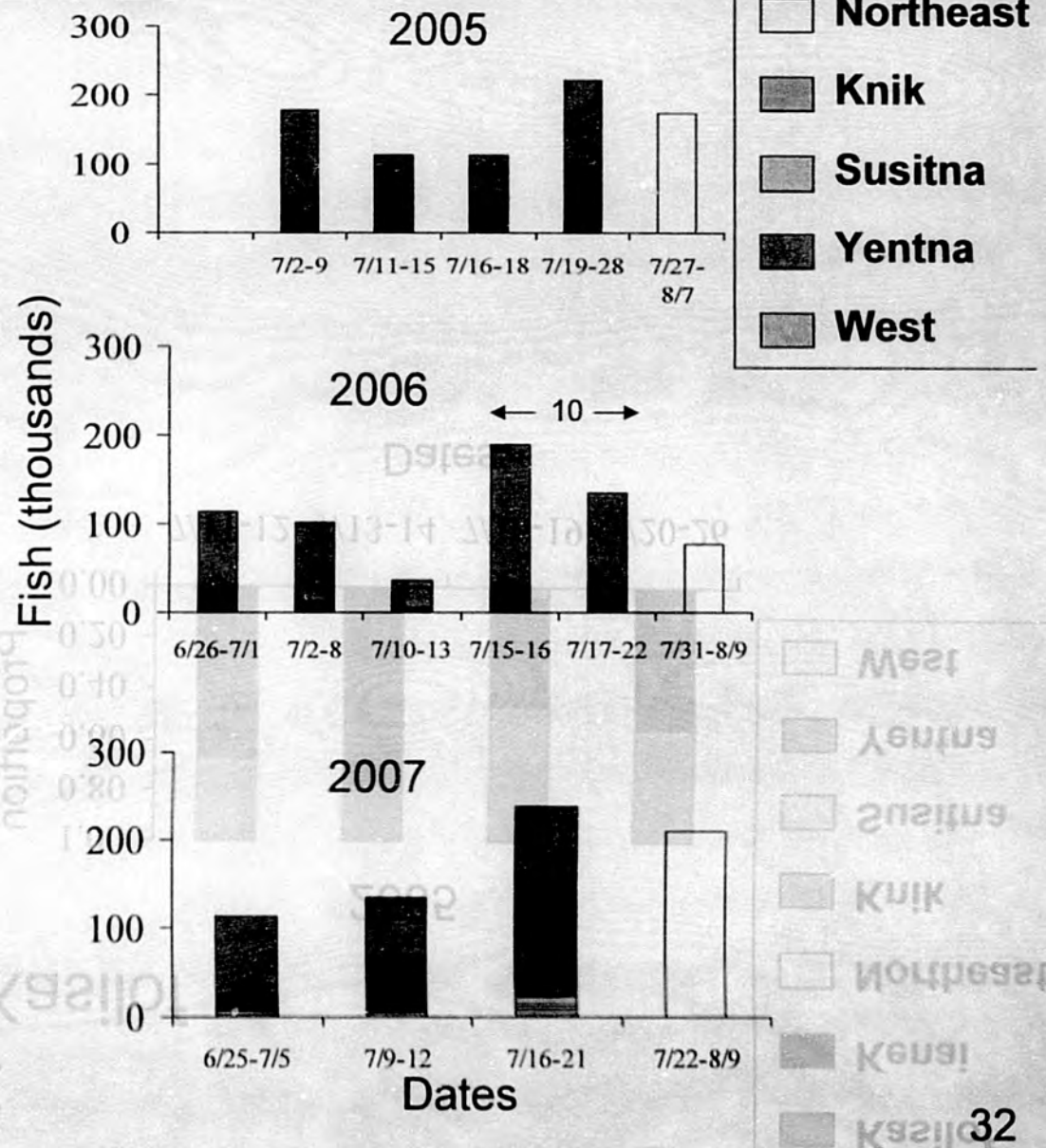
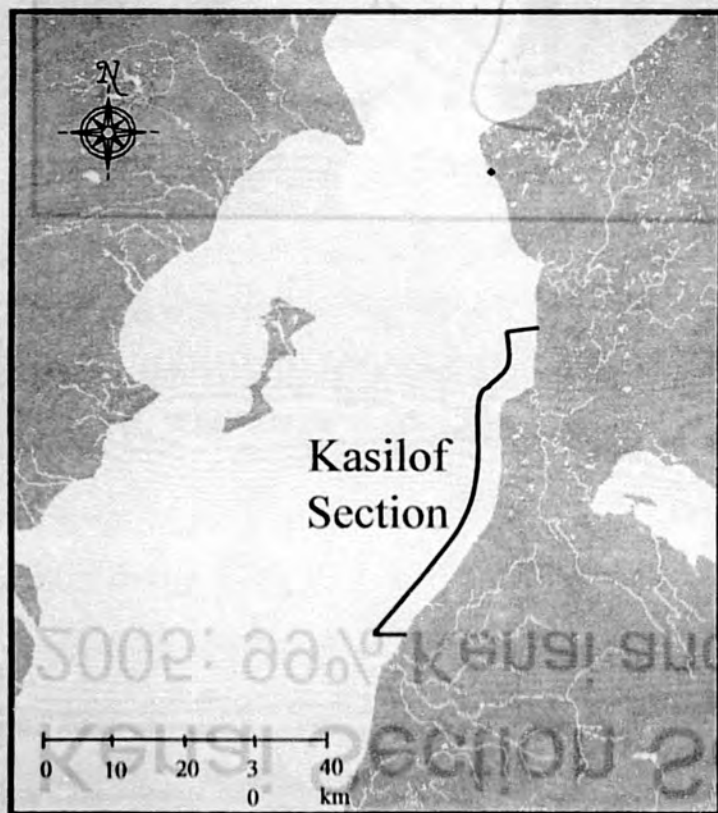
Kasilof Section Set

2007: 5-10% northern fish



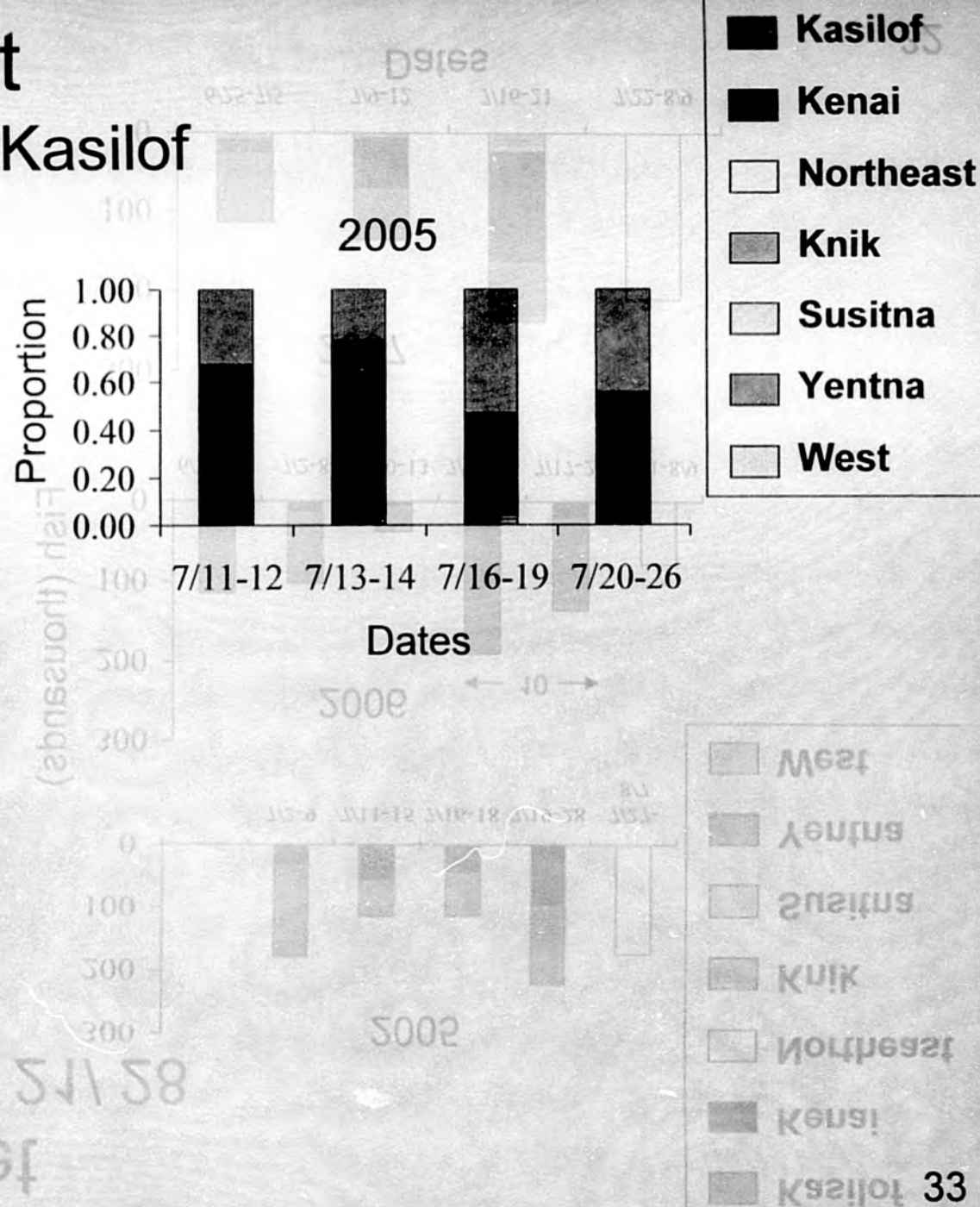
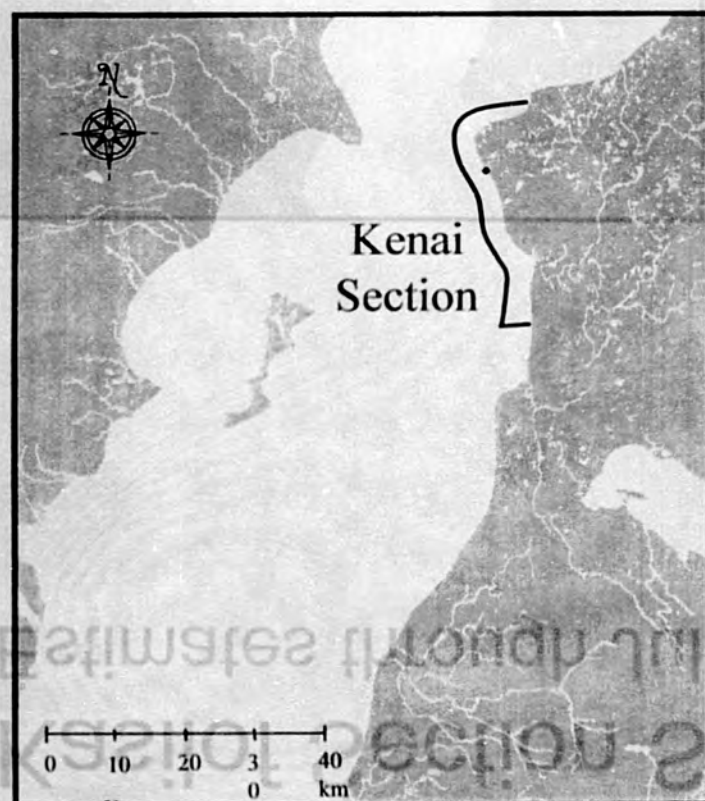
Kasilof Section Set

Estimates through July 21/ 28



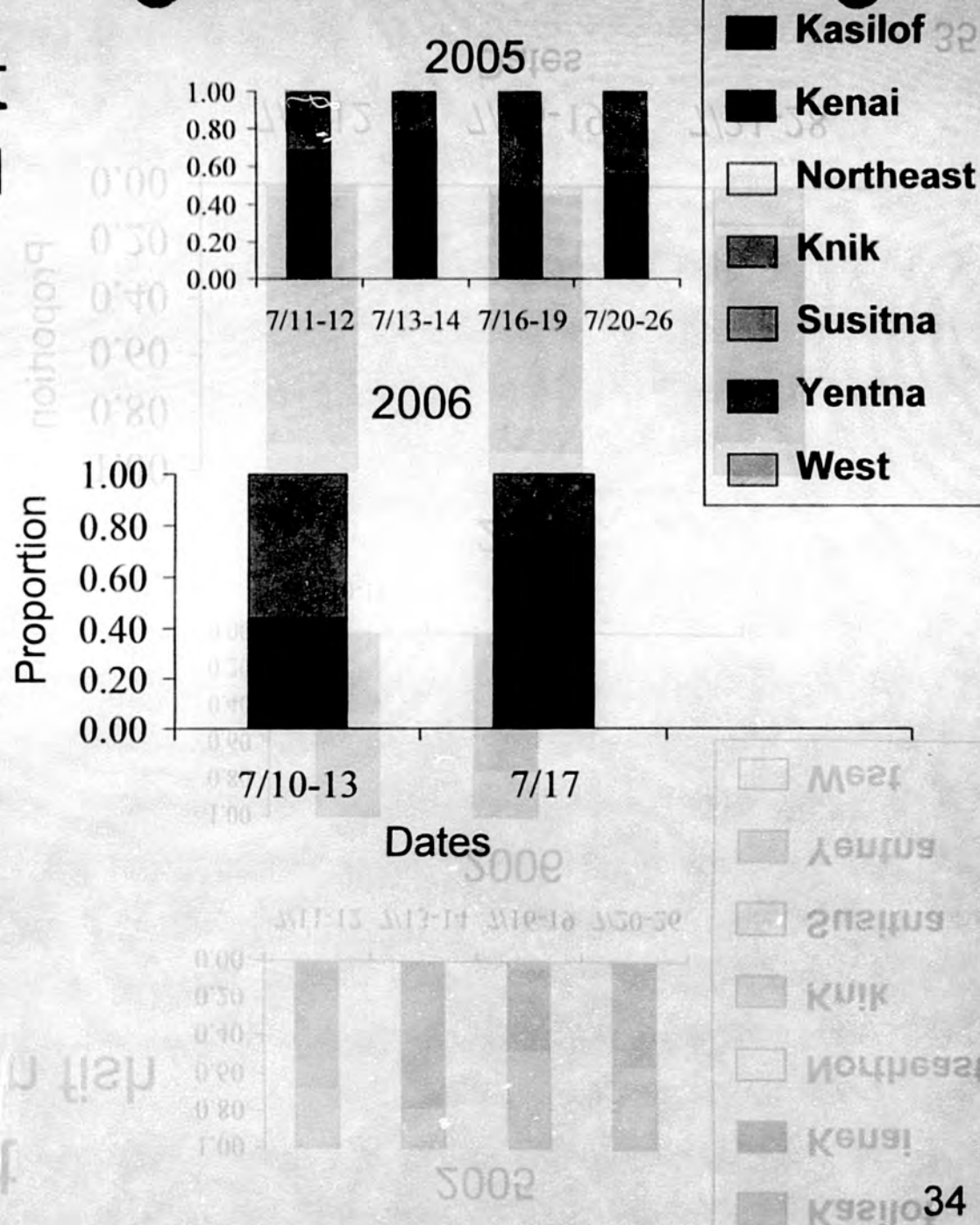
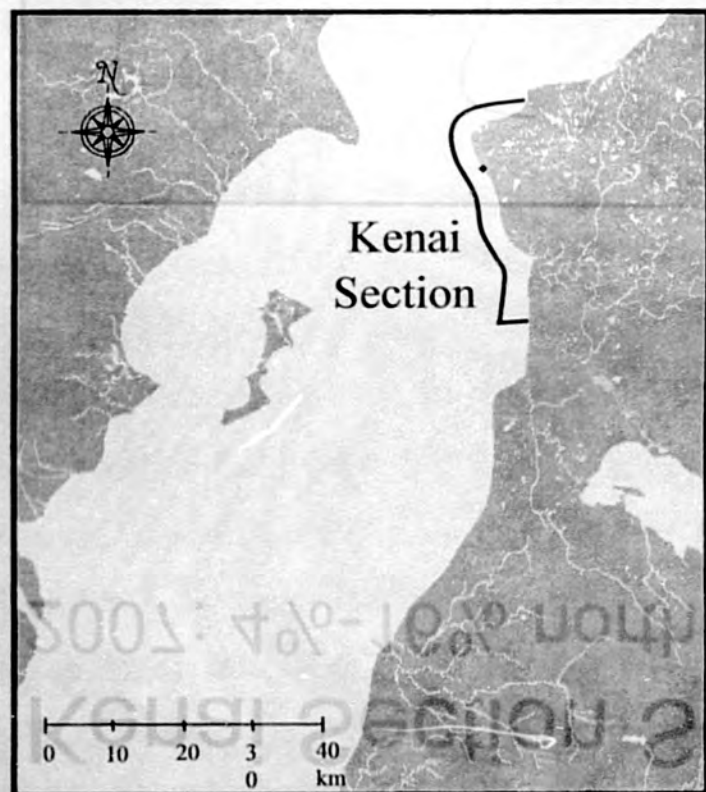
Kenai Section Set

2005: 99% Kenai and Kasilof



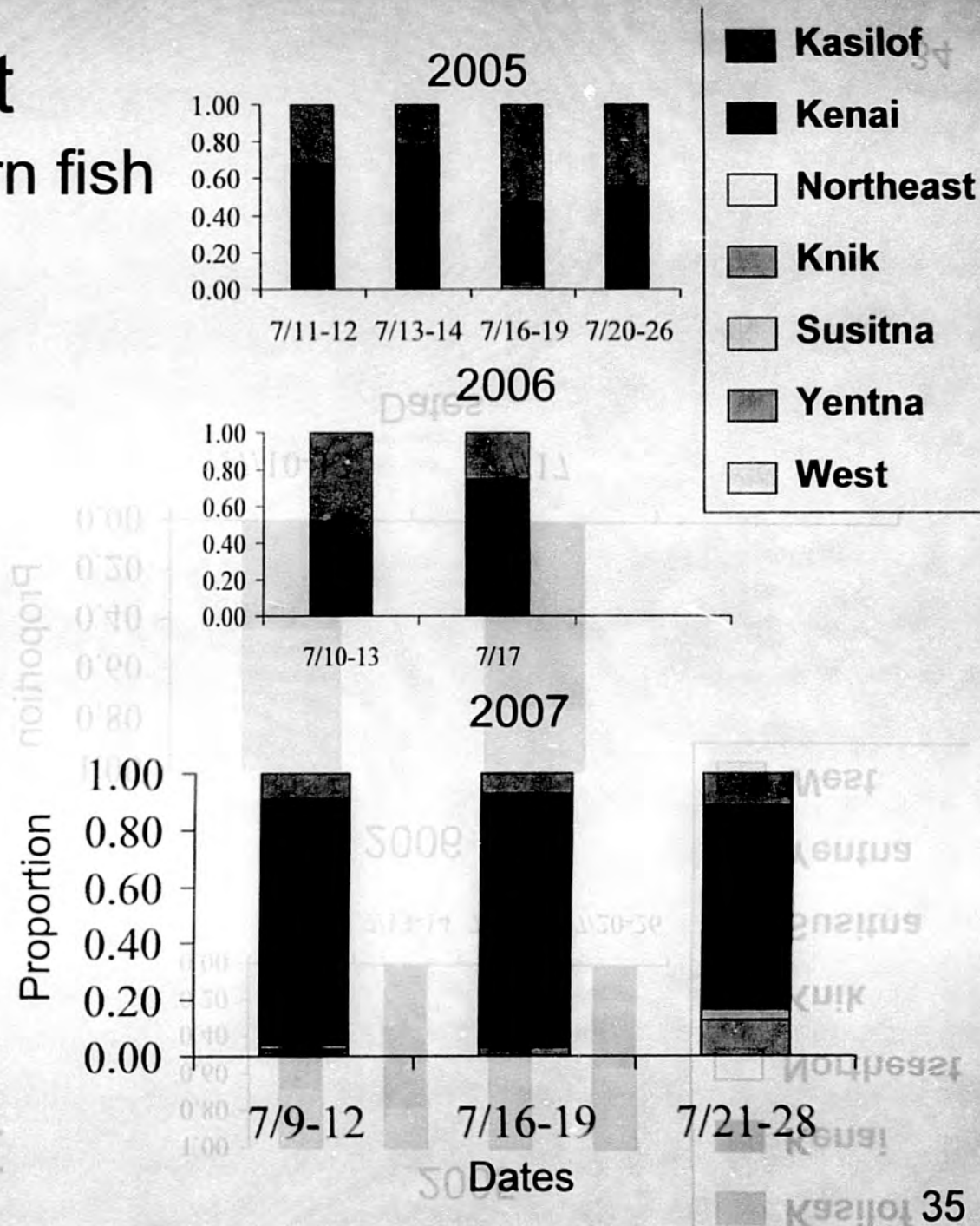
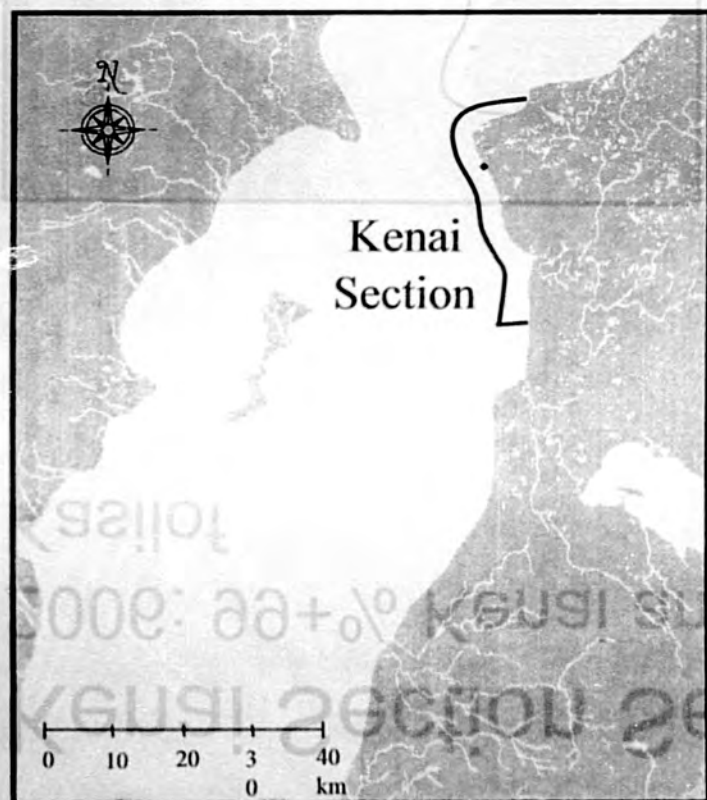
Kenai Section Set

2006: 99+% Kenai and Kasilof



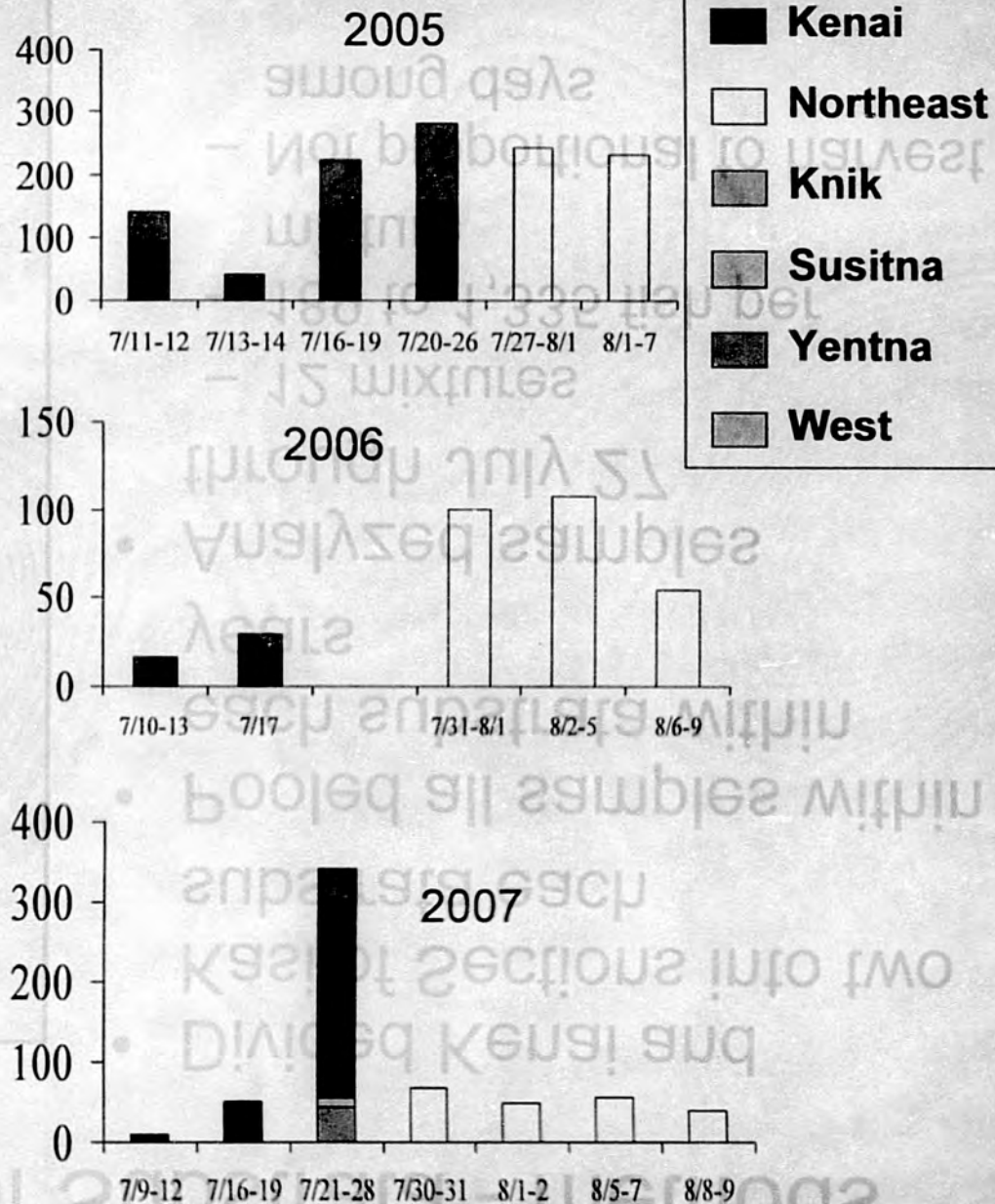
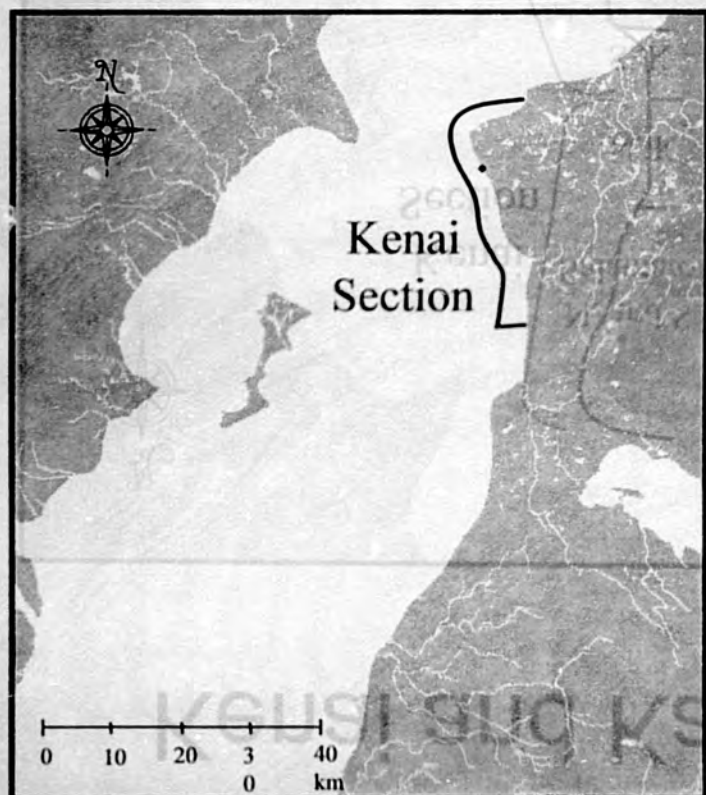
Kenai Section Set

2007: 4%-16% northern fish

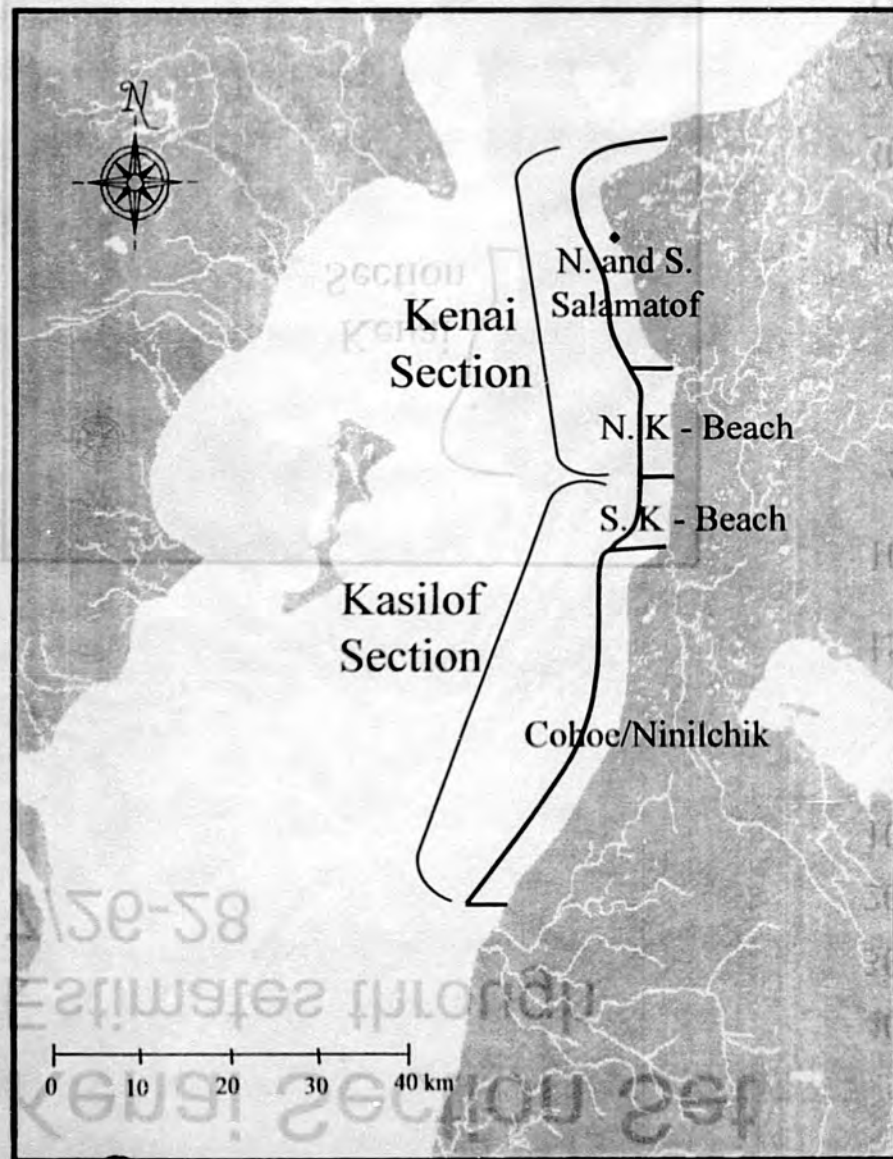


Kenai Section Set

Estimates through 7/26-28



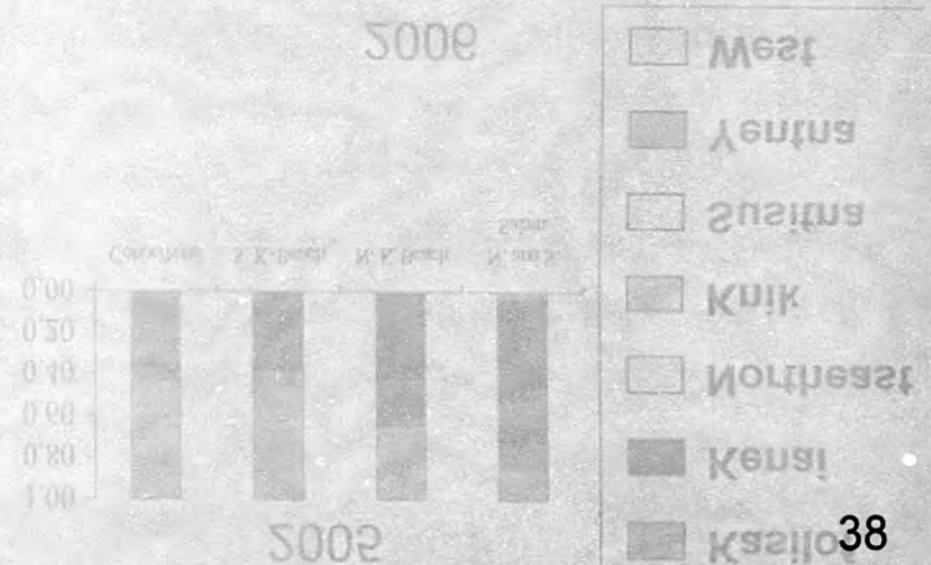
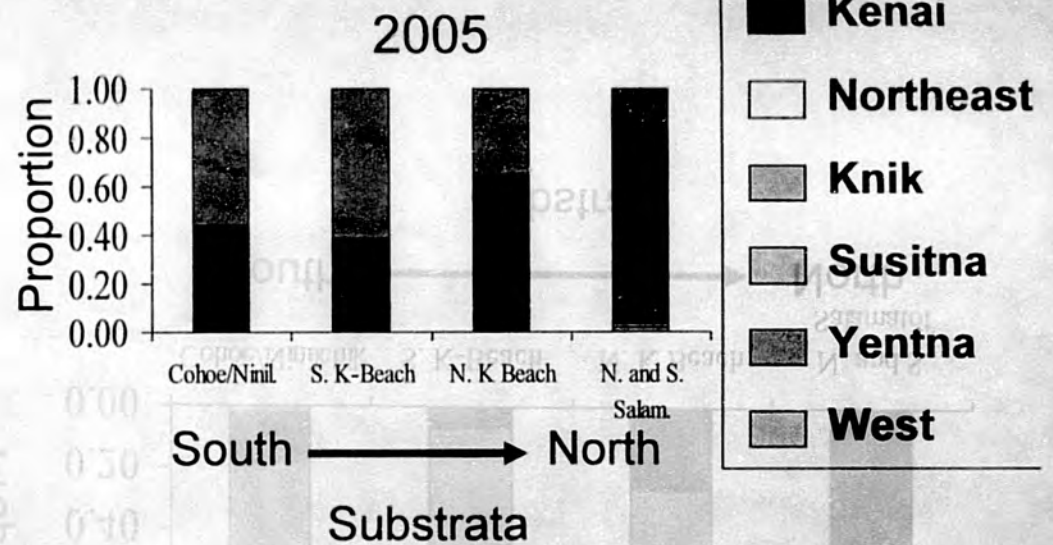
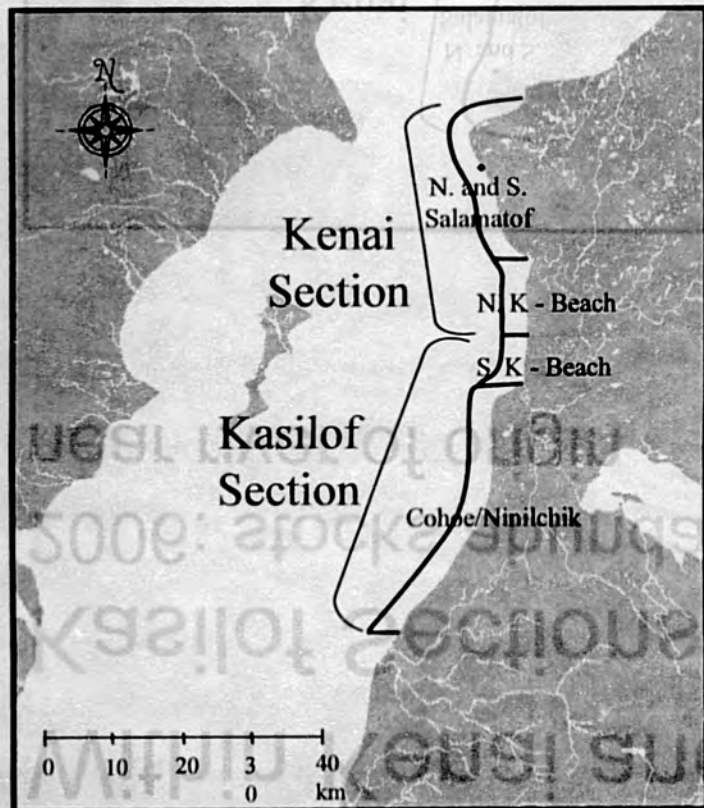
Kenai and Kasilof Substrata - methods



- Divided Kenai and Kasilof Sections into two substrata each
- Pooled all samples within each substrata within years
- Analyzed samples through July 27
 - 12 mixtures
 - 189 to 1,335 fish per mixture
 - Not proportional to harvest among days

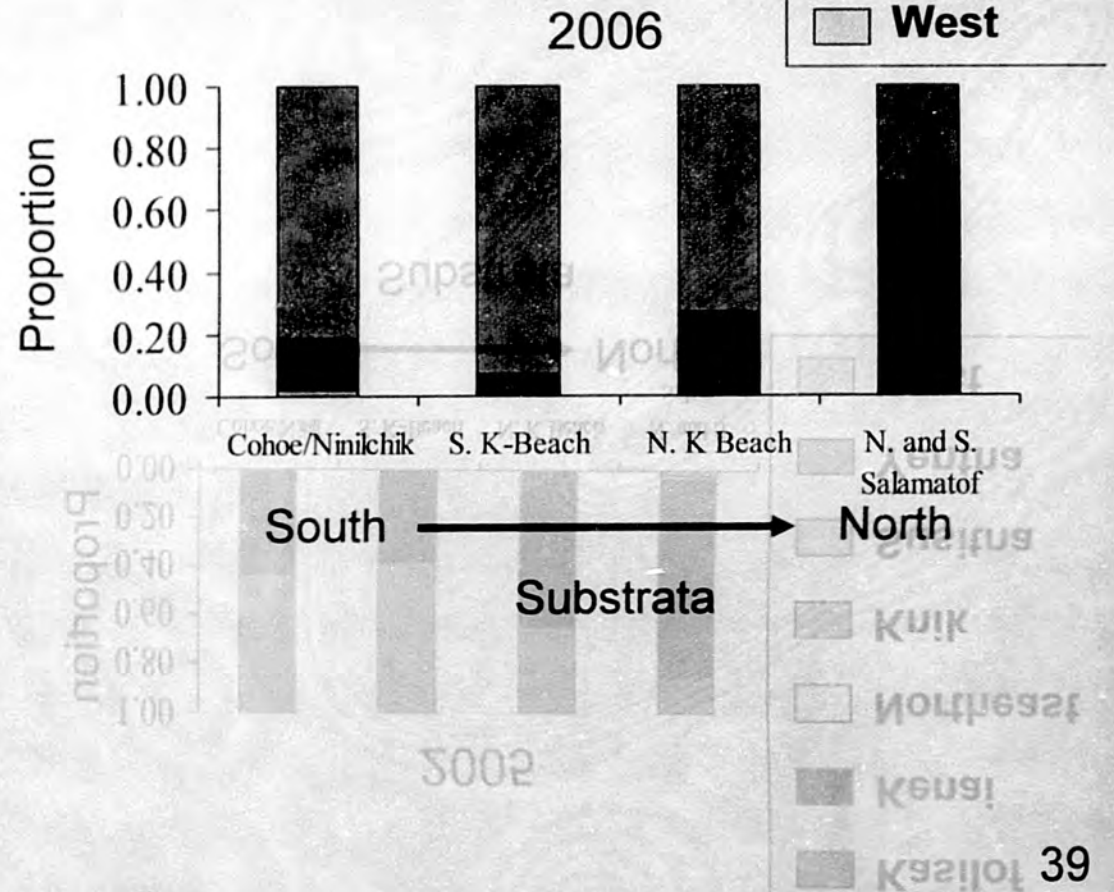
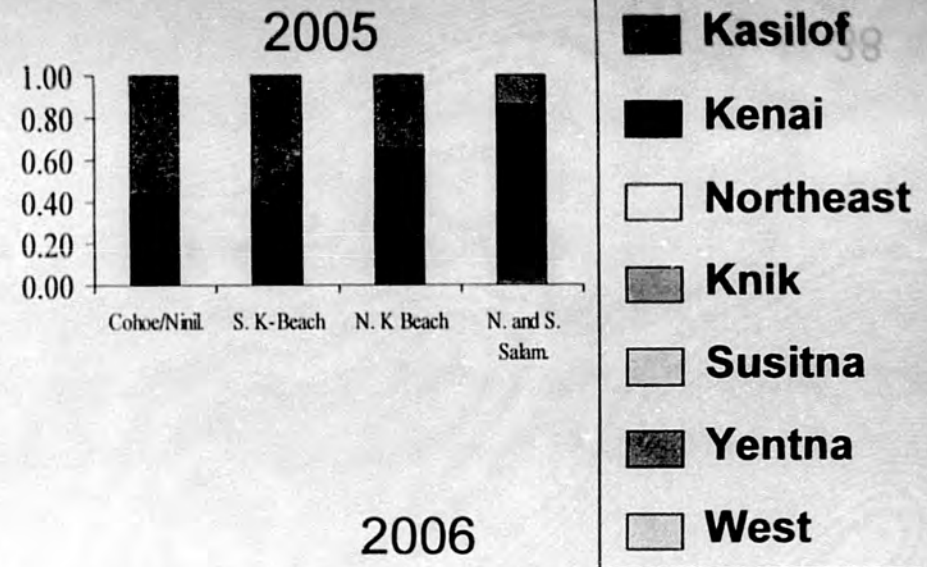
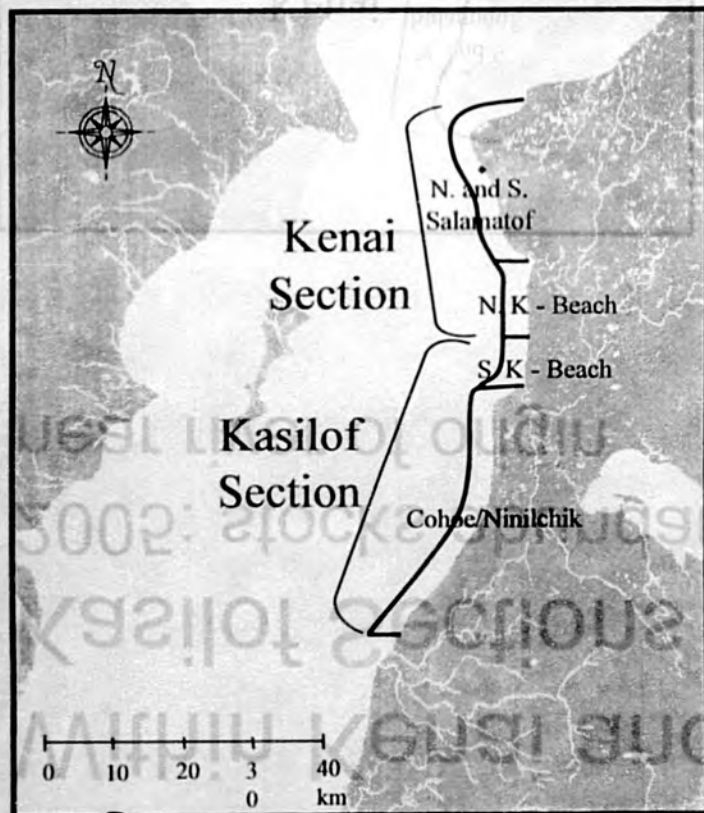
Within Kenai and Kasilof Sections

2005: stocks abundant near river of origin



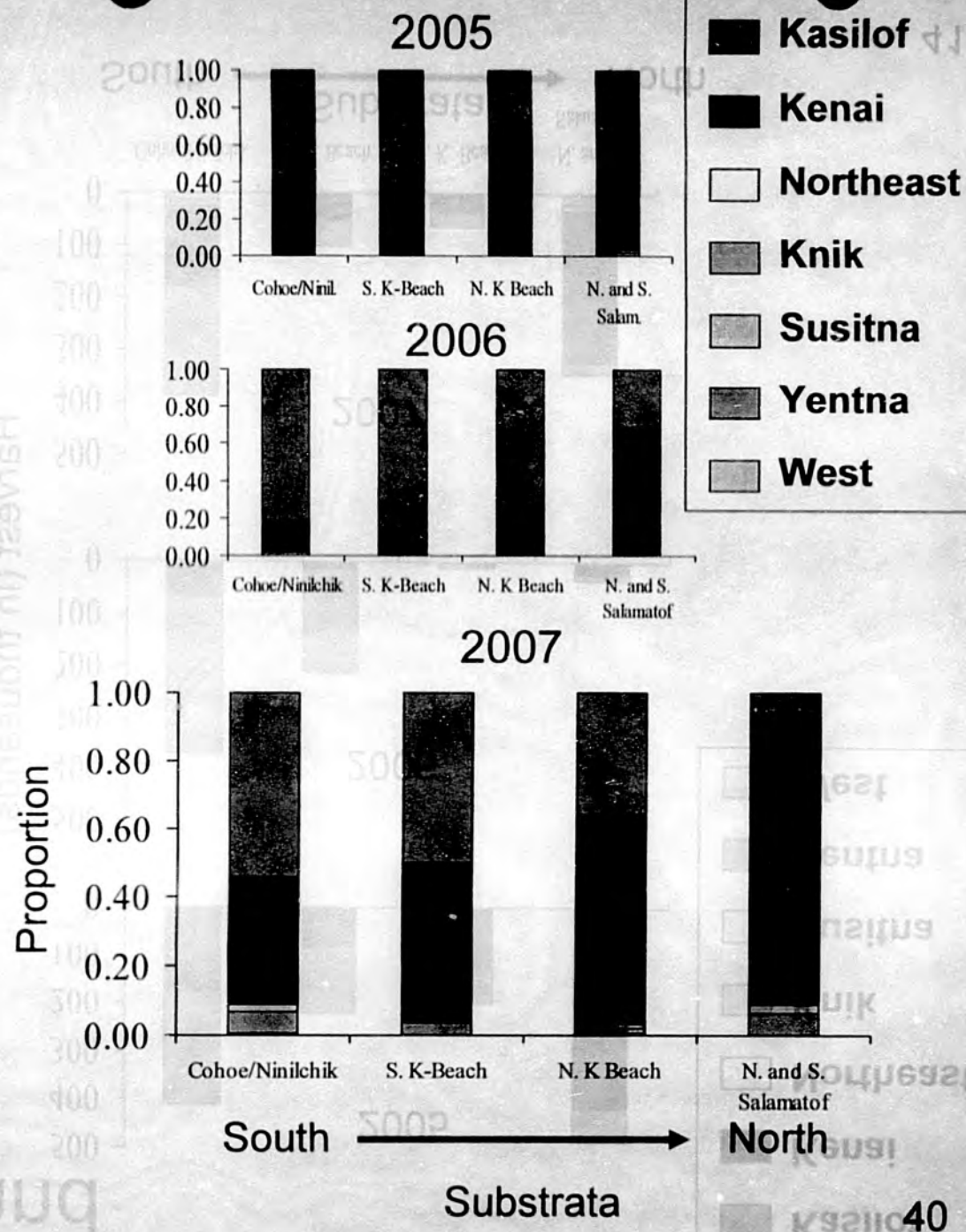
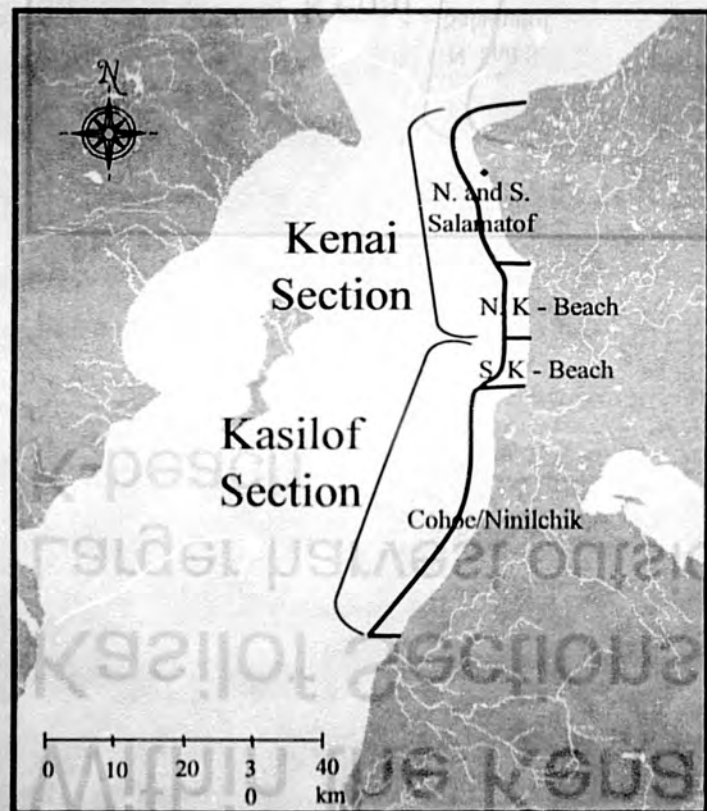
Within Kenai and Kasilof Sections

2006: stocks abundant near river of origin



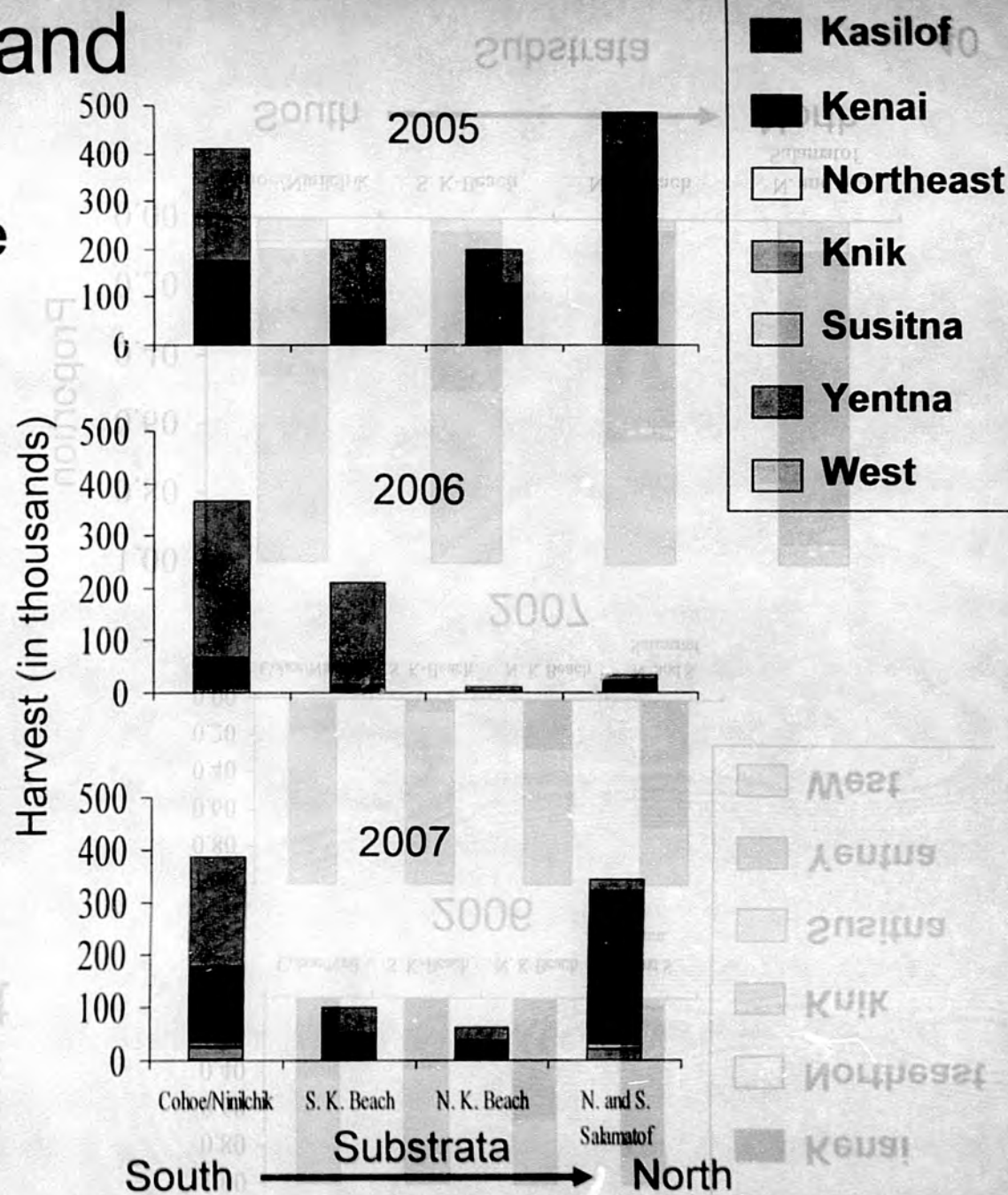
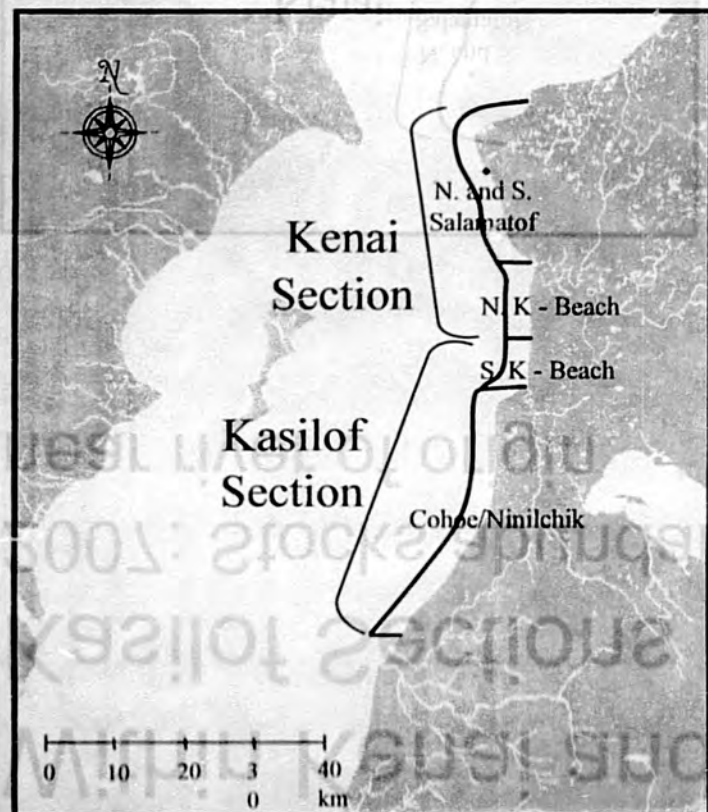
Within Kenai and Kasilof Sections

2007: Stocks abundant near river of origin



Within the Kenai and Kasilof Sections

Larger harvest outside K-beach



Take-home messages

- High year-to-year variation
 - Additional years needed to understand stock abundance through time and space
- Between-year patterns follow abundance trends
 - Kasilof proportions high in 2006
 - Kenai proportions high in 2005 and 2007
- Within-year patterns follow known migration timing
 - Kasilof proportions high early
 - Kenai proportions high late

Where from here?

- Proposal to Pacific Coast Salmon Recovery Fund
 - Finish out 2005, 2006, and 2007
 - Incorporate into brood tables
- Continue with State General funds
 - 2008 and forward
 - Continued but fewer baseline
- Controlled studies to examine variables under management control?
 - Area
 - Timing

Questions?

Questions?

Alaska Board of Fisheries Upper Cook Inlet Committee

Upper Cook Inlet Salmon Management Plans and Issues

March 9, 2007

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Introduction

The fishery management plans for salmon in Upper Cook Inlet (UCI) are, arguably, the most complex in the State. This complexity has evolved over the years as the Board of Fisheries has struggled to balance the allocation needs and desires of the various user groups. Over half of the State population resides within the UCI watershed. In most years, UCI is second only to Bristol Bay in terms of average commercial sockeye salmon harvests in the State, and also produces significant runs of chinook salmon, with the notable Kenai River known around the world as a premier sport fishing destination for monster kings. These factors and more, arguably, also combine to make the allocative tension in UCI the highest in the State's fisheries.

At the Board of Fisheries worksession in October 2006, the Board received numerous Agenda Change Requests (ACRs), mostly from commercial fishery interests, that asked the Board to re-evaluate many aspects of the UCI salmon fishery management plans. While the Board declined to accept the ACRs, it created a committee of three Board members (Nelson, Campbell, and Heyano) to begin a comprehensive review of the management plans in preparation for the regular, in-cycle meeting for UCI during the winter of 2007/2008. With input from the Alaska Department of Fish and Game, the committee prepared an initial "issues paper" on the UCI management plans. This initial draft was made available to the public for written comment and was not intended to be all-encompassing in the issues it presented, just merely a kick start of the discussion and to solicit the additional comments that were sure to come from the various users. The committee received 12 written comments, which have been incorporated into this re-draft of the issues paper, which the committee now presents to the full Board.

Based on the comments received, the committee strived to include as many additional issues as possible, not wanting to necessarily "screen" anything at this time. The committee also wishes to state that inclusion of any issue into this document does not necessarily imply an endorsement by the committee, or the full Board. This document is also not intended to be an all-encompassing issues paper. There are most likely other issues that may be brought forward through the proposal process. Even with the additional comments that the Committee incorporated, readers may wish to refer to the individual comments for further justification. For the sake of completeness, the Committee wishes to incorporate, by reference, all the timely comments that were received on the initial draft. Copies of these comments have been posted on the Board of Fisheries website at:

<http://www.boards.adfg.state.ak.us/fishinfo/uciissues.php>

The comments that the committee received addressed the complexity of the management plans, the competing nature of their intent and goals (or the lack of guidance in balancing those competing goals), and aspects of allocation across the user groups and the region. Some comments addressed the management plans in a general nature, stressing organization, purpose, and simplicity; other comments went into great specificity regarding aspects of each regulatory management plan.

Other comments referenced previous requests for Board action, particularly the ACRs that were submitted at the worksession, and also requested that the Board return the management plans to the more simple and flexible plans that existed prior to 1995 (Comment #5, Central Peninsula Fish and Game Advisory Committee).

Many comments focused on the management plans as being overly-prescriptive and "tying the hands of managers", limiting their ability to react in-season and allow commercial harvest opportunity on available surpluses of fish. They argued that the plans have resulted in serial over-escapement of sockeye into the Kenai and Kasilof Rivers that meant, at best, lost harvest and income for the commercial fishermen and, at worst, biologically jeopardized the future yield potential of these systems (Comment #9, Jeff Beaudoin). While some comments took issue with the actual numbers that are the escapement and/or in-

river goals, many comments generally stated that the management plans should be liberalized to allow the department to better manage for those goals. This theme recurred throughout many of the comments on the management plans.

Other comments expressed concern about low sockeye escapements to the Sustina drainage, particularly to the Yentna River which has failed to meet the lower end of its escapement goal in many recent years. It was argued that the intensive commercial fishery effort that focused on the abundant Kenai River sockeye salmon also caught significant numbers of Yentna sockeye. Some other comments raised questions about other (non-fishery) possible causes for low sockeye productivity in the Susitna drainage.

Yet other comments arose in defense of the current management plans. They argued that the plans' complexities are simply the result of years of work and the balancing of the needs of various users and goals. They stated that changes to increase commercial fisheries "flexibility" will only exacerbate current in-river fishery and chinook escapement problems. They also stated that the plans have largely been successful, providing for above-average commercial harvests in many recent years as well as strong in-river returns for sport and personal-use harvest opportunity and spawning escapement. (Comment #6, Kenai River Sportfishing Association)

Some comments mentioned the need for clear purpose/goal statements within each of the management plans, and that this may help to clarify priorities when the purposes and goals of each plan may be in conflict with one another. They also spoke of the need for a better organizational structure for all the plans.

<http://www.boardofalaska.com/ucf/ucfissues.php>

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Other comments referenced previous requests for Board action, particularly the ACRs that were submitted at the workshop, and also requested that the Board return the management plans to the more simple and flexible plans that existed prior to 1992 (Comment #5, Central Peninsula Fish and Game Advisory Committee).

Many comments focused on the management plans as being overly-prescriptive and "tying the hands of managers," limiting their ability to react in-season and allow commercial harvest opportunity on available surplus of fish. They argued that the plans have resulted in serial over-escapement of sockeye into the Kenai and Kasilof Rivers that account for most of the harvest and income for the commercial fishermen and at worst biologically jeopardized the future yield potential of these systems (Comment #9, Jeff Beaudoin). While some comments took issue with the actual numbers that are the escapement and/or in-

5 AAC 21.363. Upper Cook Inlet Salmon Management Plan

Management Plan:

Sometimes referred to as the "Umbrella Plan", this plan provides general management principles for all UCI salmon plans, rather than specific management directives. Many of the comments that the committee received focused on section (e) that the Board inserted in 2005:

(e) It is the intent of the Board that, while in most circumstances, the Department will adhere to the management plans in this chapter, nothing in the management plans is intended to override the commissioner's emergency order authority under AS 16.05.060 should significant new information arise that, in the commissioner's judgment, warrants departure from the provisions in the management plans.

Issue 1:

Paragraph (e) provides no guidance as how this should be interpreted and has created conflict with the Department and the public (Comment #2, Kenai Area Fishermen's Coalition). Another comment suggested that some guidance should be provided regarding "significant new information" (Comment #10, Kenai Peninsula Fishermen's Association)

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan

Management Plan:

The department shall manage the Central District commercial drift gillnet fishery as follows:
Weekly fishing period are Monday and Thursday from 7:00 am to 7:00 pm, except that these fishing periods may be modified by emergency order.

The fishing season will open the third Monday in June or June 19, whichever is later, and from July 9 through July 15, (i) fishing during the two regular fishing periods is restricted to the Kenai and Kasilof Sections and Drift Gillnet Area 1; (ii) at run strengths greater than 2,000,000 sockeye salmon to the Kenai River, the commissioner may, by emergency order, open one additional 12-hour fishing period in the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Gillnet Area 1.

From July 16 through July 31, (i) at run strengths of less than 2,000,000 sockeye salmon to the Kenai River, fishing during the two regular 12-hour fishing periods is restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Gillnet Area 1; (ii) at run strengths of 2,000,000 to 4,000,000 sockeye salmon to the Kenai River, fishing during the two regular 12-hour fishing periods is restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Gillnet Areas 1 and 2; (iii) at run strengths greater than 4,000,000 sockeye salmon to the Kenai River, there will be no mandatory restrictions during regular fishing periods.

Issue 1:

In medium to larger sockeye salmon runs, the drift gillnet fishery is a necessary tool to harvest salmon in excess of escapements. However, in recent years, restrictions to the drift gillnet fishery have been taken in an attempt to achieve the Yentna River escapement goal. The Yenta River EG has been exceeded once, within the range twice, and below the range 5 times since 1999 while the Kasilof and Kenai River goals have often been exceeded. (Issue from initial Committee draft)

The committee also received comments that management for "weak stocks" (Yentna sockeye) is wasteful. (Comment #3, Homer Fish and Game Advisory Committee)

Some comments suggested that additional caution should be taken in the early part of the season, when more Yentna sockeye are likely to be present. They also suggested that perhaps July 20 or 25 should be used as the date when the management plan shifts based on the in-season Kenai River run strength assessment. (Comment #7, Alaska Outdoor Council and Comment #8, Matanuska Valley Fish and Game Advisory Committee)

Another comment suggested a "conservation corridor" for northern sockeye stocks be created in the Central District from July 9 through July 25. (Comment #8, Matanuska Valley Fish and Game Advisory Committee)

Issue 2:

The preseason forecast, which determines the amount of fishing time and window closures for the start of the commercial fishing season, has not been correct since these plans were implemented. Since 1999 the department forecast of Kenai run strength has not been in the same tier when the total return is completed. Management actions can be opposite of what is actually necessary. (Issue from initial Committee draft)

Other comments the committee received indicated that management based on pre-season predictions may be unrealistic (Comment #3, Homer Fish and Game Advisory Committee)

Issue 3:

The management plan contains an apparent oversight, with no direction regarding commercial fishing time from August 1 through August 10. (Comment #6, Kenai River Sportfishing Association)

5 AAC 21.356. Cook Inlet Pink Salmon Management Plan.

Management Plan:

This plan directs the Department to manage the Cook Inlet pink salmon stocks primarily for commercial uses to provide an economic yield from the harvest of these salmon resources based on abundance. The Department shall also manage the commercial pink salmon fishery to minimize the harvest of Northern District and Kenai River coho salmon stocks.

Issue 1:

The plan addresses only the drift fleet, while the Central District eastside setnet fleet was historically the major harvester of Kenai River pink salmon. (Comment #2, Kenai area Fishermen's Coalition)

Issue 2:

The timing of the management plan is outside the migratory run timing for Susitna River pink salmon stocks. (Comment #2, Kenai area Fishermen's Coalition)

5 AAC 21.358. Northern District Salmon Management Plan.

Management Plan:

The purposes of this management plan are to: 1) minimize the harvest of coho salmon bound for the Northern District of upper Cook Inlet and; 2) to provide the department direction for management of salmon stocks. The department shall manage the chum, pink, and sockeye salmon stocks primarily for

commercial uses to provide commercial fisherman with an economic yield from the harvest of these salmon resources based on abundance.

Issue 1:

In 14 of the last 15 seasons the Northern District set gillnet fishery has been closed for one or more periods, and the drift gillnet fishery has been restricted in an attempt to meet the Yentna River escapement goal. While these restrictions have been taken to meet the Yentna River escapement goal, both the Kasilof and Kenai River goals have often been exceeded. Under 5 AAC 21.358(b) it states "Achievement of the lower end of the Yentna River optimal escapement goal shall take priority over not exceeding the upper end of the Kenai River escapement goal. When the sockeye salmon returns to the Kenai River are four million or greater, the optimal escapement goal is 75,000 to 180,000 sockeye salmon in the Yentna River". It is unclear as to which goal in the Kenai the plan is referencing. (Issue from initial Committee draft)

The committee received comments that the Kenai management should take precedence over Yentna escapement as long as sustainability is maintained. (Comment #4, Homer Fish and Game Advisory Committee)

5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

Management Plan:

The department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage the commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources. The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to (1) meet an optimum escapement goal (OEG) range of 500,000 - 1,000,000 late-run sockeye salmon; (2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19; and (3) distribute the escapement of sockeye salmon evenly with the OEG range, in proportion to the size of the run.

Issue 1:

The BOF has adopted escapement goals, windows, and established fishing time restrictions. It is unclear which is the higher priority; allowable fishing time or managing within the escapement goals. It is also unclear which goal the board is referring to when managing for escapement goals, the OEG listed under 5 AAC 21.360(b)(1) or the inriver goals listed under 5 AAC 21.360(2). As mentioned earlier, the amount of fishing time allowed by current regulations and the inriver goal at the sonar site (at mile 19) is determined by the preseason run projection until approximately July 25. This can create problems because since 1999, the end of season total run estimate has never matched the management tier based on the preseason run projection. (Issue from initial Committee draft)

Comments on this issue stated that the Kenai sockeye run should be managed within its escapement goals with wide emergency order authority for the Department and no regulations that mandate closures, windows, tiers, etc. (Comment #4, Homer Fish and Game Advisory Committee)

Many other comments spoke of the confusion between the OEG and the in river goals and suggested clarification.

Issue 2:

The bag and possession limit is set in the management plan at three sockeye salmon. When bag and possession limits are set in management plans, the department cannot use its emergency order authority to increase or decrease limits unless allowed by the management plan. This plan only allows a bag and possession limit increase to six sockeye salmon. The issue is the department does not have the flexibility to decrease limits rather than closing the fishery or increasing the possession limit to increase harvest. (Issue from initial Committee draft)

Issue 3:

It is unclear if the sport and personal use fisheries are also required to take action to meet all three of the criteria listed under (b) of 5 AAC 21.360. (Issue from initial Committee draft)

Issue 4:

Paragraph (a) states "...The Department shall manage the commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources". The term "reasonable opportunity" is vague and the Board should consider a better definition of this term. (Comment #2, Kenai Area Fishermen's Coalition)

Issue 5:

Clarify priorities relative to 5 AAC 21.359 (a) which directs that the department shall manage the late-run Kenai River chinook run primarily for sport and guided sport uses. Despite this direction, management of commercial sockeye fisheries typically results in a de facto 50% or greater allocation to the commercial fishery. How should adjustments to existing plans that diminish this directive be addressed? (Comment #6, Kenai River Sportfishing Association)

Issue 6:

The current OEG range and in-river goal range need to be recalibrated and reflect updated in-river sockeye fisheries harvest levels. Kenai goals are based on sustainable spawning escapement goals backed down to the sonar based on assumptions for in-river harvest in sport and personal use fisheries. However, in-river harvest has been significantly greater than previously assumed, particularly when large number of sockeye are available in the river. As a result, even when the sonar goals have been exceeded, escapement targets have often been met. (Comment #6, Kenai River Sportfishing Association)

Another comment suggested that the Kenai River late-run sockeye escapement goals are too high given concerns about the productivity of Kenai and Skilak Lakes and that the goals should be reduced to avoid jeopardizing future returns. (Comment #10, Kenai Peninsula Fishermen's Association)

5 AAC 21.365. Kasilof River Salmon Management Plan.

Management Plan:

This management plan governs the harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the Board of Fisheries that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including the methods, means, times, and locations of those fisheries.

Openings in the areas historically fished must be consistent with escapement objectives for upper Cook Inlet salmon and with the Upper Cook Inlet Salmon Management Plan (5 AAC 21.363).

Issue 1:

The Kasilof River biological escapement goal has been exceeded 6 of seven years since 1999 while the OEG has been exceeded 4 of 5 years (OEG established in spring of 2002). The current management plans allotted fishing time prior to July 9 is not sufficient to harvest excess fish. The 48 hour window has also been problematic as during that period of time, large passage rates have occurred. These two factors have kept the department from being able to manage for the escapement goal. (Issue from initial Committee draft)

One comment suggested that the current Kasilof River sockeye salmon escapement goal and OEG may be too low. Large escapements into the Kasilof, rather than reducing run size have instead produced above replacement resulting in even larger returns. (Comment #6, Kenai River Sportfishing Association)

Issue 2:

Because of the increased frequency of exceeding the escapement goal, the department has begun to use the Kasilof River Special Harvest Area (KRSHA) much more aggressively to harvest excess fish to stay within the current Optimal Escapement Goal of 150,000 to 300,000 sockeye salmon. From 1986 until 2004 the KRSHA was not used. The current use of the KRSHA is the only tool available to attempt to keep the escapement within the goal during closed windows and when all available fishing time in 5 AAC 21.360 has been utilized. It also is in conflict with the BOF intent to harvest salmon in fisheries that have historically harvested them including the methods, means, times, and locations of those fisheries. (Issue from initial Committee draft)

A public comment stated that the KRSHA is a valuable tool to utilize when the Kenai or other stocks must be protected, but there is a significant surplus of Kasilof fish, and stated that the while it may not be the prefect solution, the KRSHA should have been used more often in recent years. (Comment #1, Gary Hollier)

Another comment mentioned that various fishery restrictions such as windows and limitations on E.O. authority have led to the necessity of the KRSHA, which has increased the harvest of Kenai and Kasilof kings, while still not catching enough Kasilof reds. (Comment #4, Homer Fish and Game Advisory Committee)

A comment also mentioned that the KRSHA has resulted in poor quality of salmon harvested, intense user conflicts, displacement of historic users and that the Kasilof River plan should be de-coupled from the Kenai River Late-Run Sockeye Management Plan. (Comment #9, Jeff Beaudoin and Comment #10, Kenai Peninsula Fishermen's Association)

Issue 3:

Beginning July 8, the set gillnet fishery in the Kasilof Section is managed as specified in 5 AAC 21.360(c); in addition to the provisions of 5 AAC 21.360(c), the commissioner may, by emergency order, limit fishing during the regular weekly periods and any extra fishing periods to those waters within one-half mile of shore, if the set gillnet fishery in the Kenai and East Forelands Sections are not open for the fishing period. July 8 may be too early to manage the Kasilof stock based on the run strength of the Kenai River. (Issue from initial Committee draft)

Issue 4:

After July 15, if the department determines that the Kenai River late-run sockeye salmon run strength is projected to be less than two million fish and the 300,000 optimal escapement goal for the Kasilof River sockeye salmon may be exceeded, an additional 24-hours per week in the Kasilof Section within one-half mile of shore as allowed by regulation. This additional time may not be sufficient to harvest surplus Kasilof sockeye. (Issue from initial Committee draft)

A public comment (#1, Gary Hollier) expressed concern that additional time in the Kasilof section may keep the Kenai from achieving its minimum goals.

Issue 5:

The current opening date of June 25 (or as early as June 20 if 50,000 sockeye are in the Kasilof River) may be too late to prevent lost commercial harvest opportunity and escapements above the upper end of the goals. While the comment related to the Kasilof section, the actual regulation that governs the starting date is found at 5 AAC 21.310. Fishing Seasons. (Comment #1, Gary Hollier)

Issue 6:

Commercial fisheries at or near the mouth of the Kasilof River in late-June and through much of July have drastically reduced what was historically a productive and popular in-river chinook salmon sport fishery. Also, the harvest of significant numbers of Kenai chinook in Kasilof sockeye setnet fisheries contribute to the disproportionate harvest share of Kenai chinook in the commercial setnet fishery relative to their sport fishery priority identified in the Kenai River Late-run King Salmon Management Plan. (Comment #6, Kenai River Sportfishing Association)

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

Management Plan:

This management plan governs the harvest of salmon in Upper Cook Inlet for personal use. This plan establishes seasons, areas, harvest levels, reporting requirements, harvest permits, and allowable gear types.

Issue 1:

The department cannot use its emergency order authority to extend the personal use fishing season beyond what is stated in the management plan. The current season regulatory closure of July 31 for the Kenai River dip net fishery does not allow flexibility to harvest fish in a late run year. It is also unclear if the department can use its emergency order authority to increase or decrease time and area of the personal use fishery in response to abundance. (Issue from initial Committee draft)

Issue 2:

The Department lacks the authority to make inseason adjustments to bag and possession limits in the personal use fishery. (Comment #6, Kenai River Sportfishing Association)

Other issues and regulations that were raised:

Kenai River Chinook Salmon (Early Run):

Current slot limit affecting harvest of early-run chinook salmon in the Kenai River may unnecessarily restrict harvest opportunity in the sport fishery given that the escapement goal range has been reduced. (Comment #6, Kenai River Sportfishing Association)

Kenai River Chinook Salmon:

Current restrictions on the harvest of jack salmon do not allow for a harvest of this size and age class proportional to abundance and is therefore limiting harvest opportunity. Comment #6, Kenai River Sportfishing Association)

5 AAC 39.222. Policy for the Management of Sustainable Salmon Fisheries

Several comments referenced the SSFP in the context of managing the fisheries for their escapement goals, and suggested that management plans that consistently allow for goals to be exceeded are in violation of the policy.

Another comment suggested that the Kasilof River should be found as a stock of concern due to its inability to meet its escapement goals (exceeding) based on the SSFP. (Comment #3, Jeff Beaudoin)

5 AAC 39.223 Policy for Statewide Salmon Escapement Goals

Several comments suggested that a review and justification of current escapement goals was warranted. While many of these comments focused particularly on the Board-established OEG's, some comments suggested that some or all escapement goals undergo a thorough review (BEG, SEG, OEG). (Comment #2, Kenai Area Fishermen's Coalition, Comment #8, Kenai River Sportfishing Association, Comment #10, Kenai Peninsula Fishermen's Association)