FIGURE 1. Council-adopted non-indian commercial salmon seasons for 2007. Dates are the first or last days of the month unless otherwise specified.
Enabling technologies

Hardware
- Electronic data loggers
- Temperature/depth loggers
- Bar-code readers

Data collection
- Buoys
- Doppler radar
- Autonomous gliders

Communication
- Cell phones
- Satellite phones
- Email
- Internet
- World-wide web

Satellite-based
- GPS
- Communications
- Remote sensing

Computer-based
- Data base software
- GIS
- Ocean models
- Visualization software
GAPS

Genetic Analysis of Pacific Salmon

• Provides a microsatellite baseline for ~160 populations of West Coast Chinook Salmon

• Collaborative effort of genetic labs from Alaska to California

• Funded by NOAA and Pacific Salmon Commission
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News and Events

TOP STORY: Pacific Fish Trax
Oregon Albacore now available at New Seasons Market

Take our survey and get $2 off Oregon Albacore.
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2007 Catch, Effort, and Stock Composition

Northern Oregon Coast
June - July 2007, n = 388

Southern Oregon Coast
June – October, n = 2447

Klamath Management Zone
July – October, n = 672

Map Key
- low
- high

Vessel effort
- low
- high
Maps of fishing effort and catch locations for two weeks of fishing off the Coast of Oregon, 2006.

17-23 Sept

24-30 Sept
Chinook catch and satellite SSTs in 2006

Sept 17-19

Sept 24-26

Upwelling 42°N

Week 1

Week 2

Analysis by Bobby Ireland
GSI in Management

• The GSI project exists because of its potential for use in management.
  – Impetus was Klamath stock failure in 2005.
  – Access strong stocks and control impacts on weak stocks

• Multiple partners
  – Fishermen
  – Managers
  – Scientists
  – Processors and Marketers

• In the short term usefulness will be limited.
• As we collect data over a number of years we will gain confidence in stock distributions time and space.
• Potential management applications will become apparent over time.
Management in GSI

- We need to think seriously about potential management applications to West Coast fisheries
  - Models, season setting, in-season, other?
- Multiple management agencies are involved
- Develop action plan
- Dialog with the Council
What have we learned so far?

• GSI is not “stand-alone” solution.
  – combine with CWTs, scales, mass marking
• Can estimate stock compositions from fewer fish with higher resolution compared with CWTs.
• In addition to catch, can get more specific effort data.
• Can be used effectively to sample other fisheries.
  – whiting
Limitations

• No intrinsic age determination
  – scales
    • controversial, may not be useful in all situations
• Stock discrimination different from CWTs
  – disconnect with management structure
• Hatchery and wild stocks usually the same
  – fill in assumptions from CWTs about similar distributions
  – in combination with mass marking or constant fractional marking, can separate hatchery and wild components
Sampling

- In 2006 and 2007 sampling was conducted in open times and areas.
- Because of current limited harvest opportunities sampling in closed areas will be needed.
  - adequately define GSI-based stock distributions over the area managed by the Council.
  - Continue project development in the near future.
- Saltonstall-Kennedy grant was received to sample closed areas in California.
- A permit system will be needed to conduct these experiments
Scientific Research Permit

- All sampling activities in closed times and areas must be approved by the Council.
- Impacts are modeled in the regular season setting process.
- All fishing in closed times and areas will be catch and release.
- A permit is required for all activities in closed times and areas.
- A NMFS Scientific Research Permit (SRP) is the best mechanism for this project.
Scientific Research Plan

- Three options presented in NMFS Memo
  1. Synoptic sampling
  2. Limited sampling
  3. Zero impact activities
1. Synoptic sampling

- All areas and weeks
  - 8 management areas
  - 26 weeks from May through October
  - 208 sample units x 240 fish = 49,920 fish encountered
  - SRFC mortalities range from 4000 to 8000
2. Limited sampling -- California

- Repeat San Francisco area North/South sampling
- Test for differences in KRFC encounter rates
  - 2 areas
  - 4 weeks
  - 8 sample units x 240 fish = 1920 fish
  - SRFC mortalities range from 297 to 535
2. Limited sampling -- Oregon

- Test feasibility of fishery independent surveys
  - 5 boats fishing normally
  - 5 boats running transects
  - 2 fishing strategies
  - 4 weeks
  - 8 sampling units x 240 fish = 1920 fish
  - SRFC mortalities range from 178 to 357
3. Zero impact sampling -- Oregon

- Develop sampling methods and technology
  - At-sea data entry system
  - Oceanographic data loggers
- Boats would have lines in the water but no terminal gear.
- Permit requested for three reasons
  1. Enforcement considerations
  2. Protection of skippers
  3. Test permitting system
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