Hydroacoustic analysis of fish movement in the vicinity of the Tracy and SWP plants in relation to velocity structure, tidal flows, and light.

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FY04 proposed pilot study:

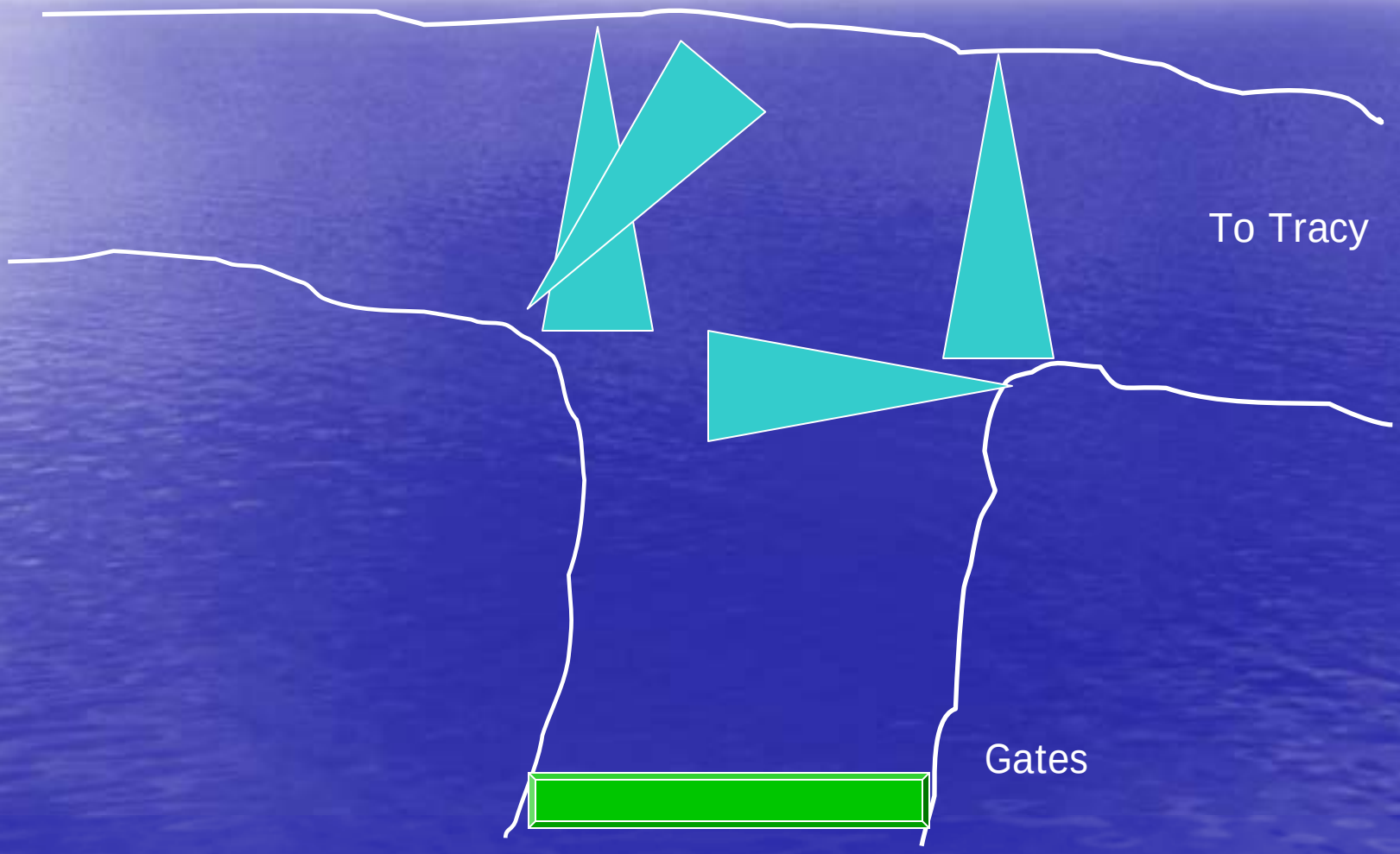
-Scanning acoustic transducer placement near entrance to Clifton Court

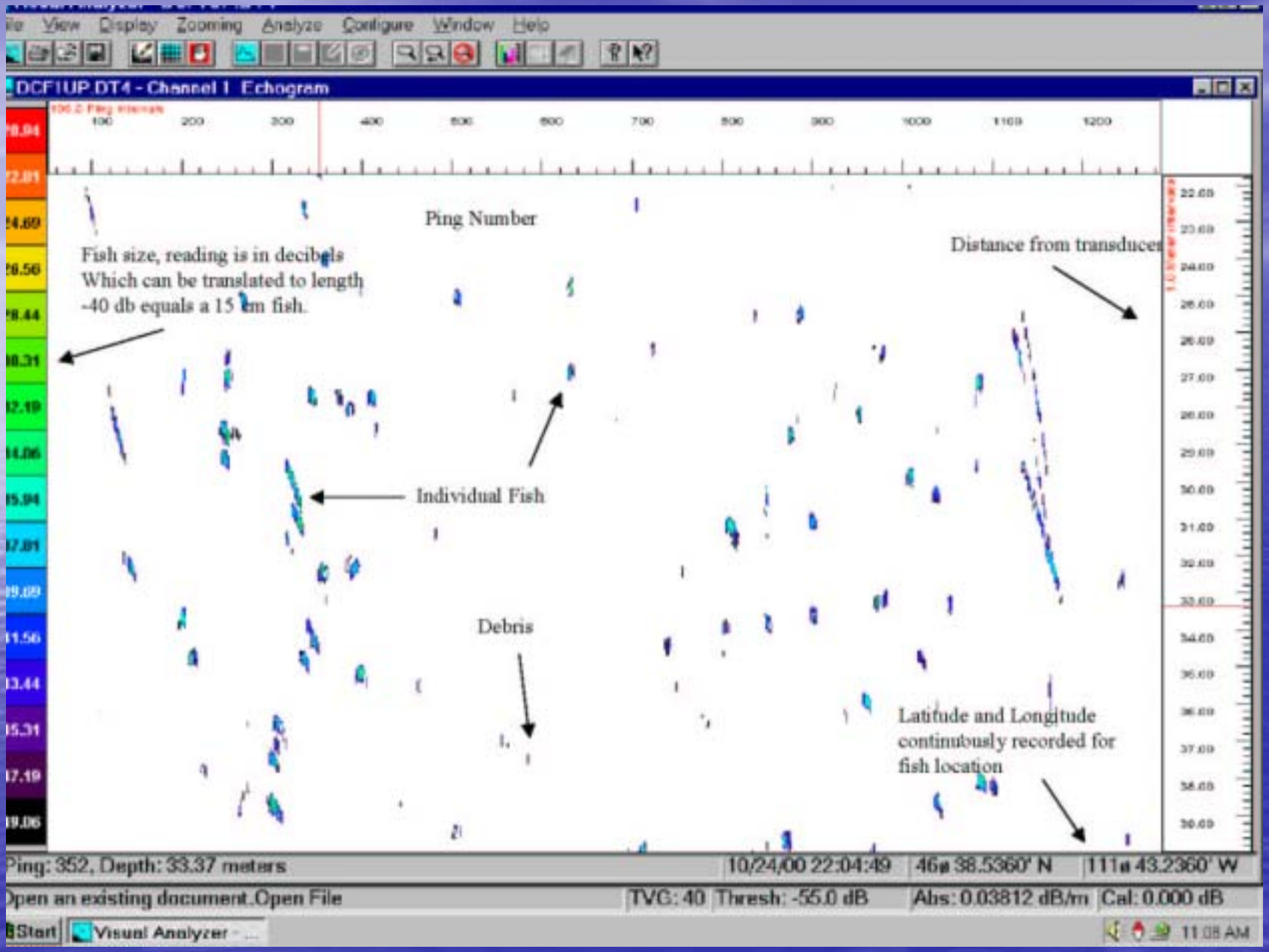
-One-Month placement period during critical period

-Determine feasibility of use

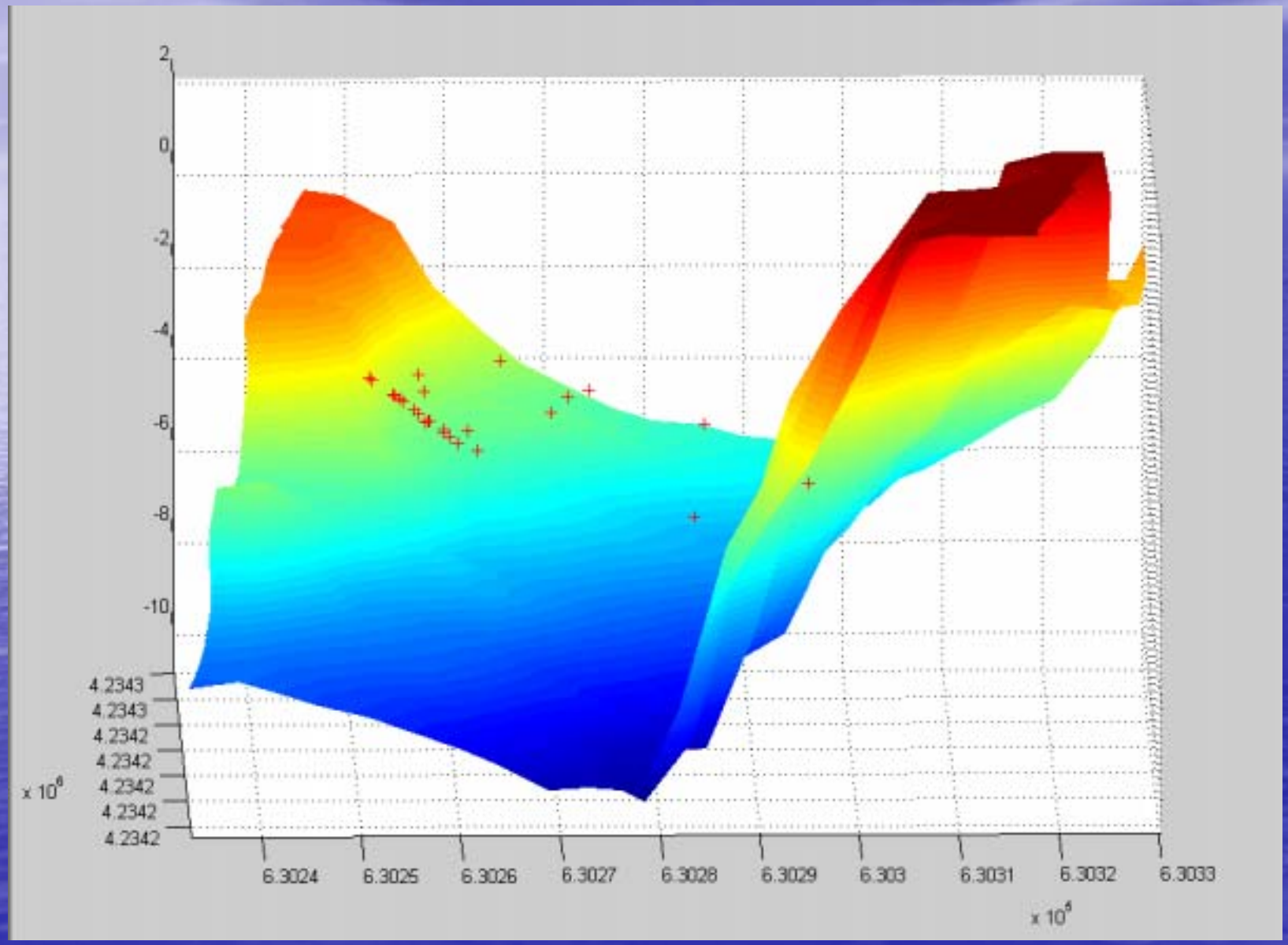
-One 30 hour placement in conjunction with intensive fish sampling to provide species specific water column positioning.

Scan Channel to aquire data

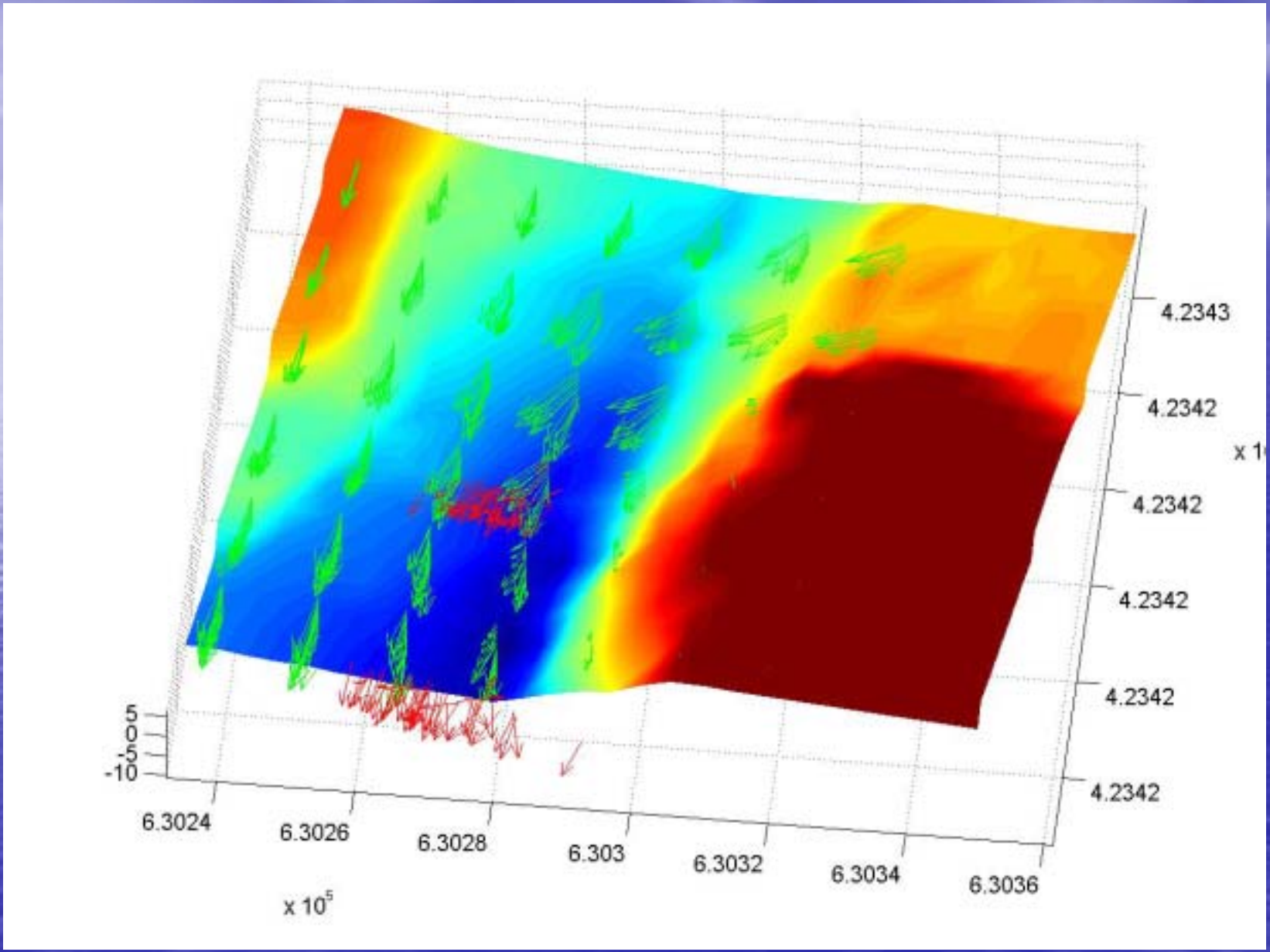



View Display Zooming Analyze Configure Window Help
DCF1UP.DT4 - Channel 1 Echogram
Ping Number
Fish size, reading is in decibels
Which can be translated to length
-40 db equals a 15 cm fish.
Distance from transducer
Individual Fish
Debris
Latitude and Longitude
continuously recorded for
fish location
Ping: 352, Depth: 33.37 meters
10/24/00 22:04:49
46° 38.5360' N
111° 43.2360' W
Open an existing document.Open File
TVG: 40
Thresh: -55.0 dB
Abs: 0.03812 dB/m
Cal: 0.000 dB
Start
Visual Analyzer - ...
11:08 AM

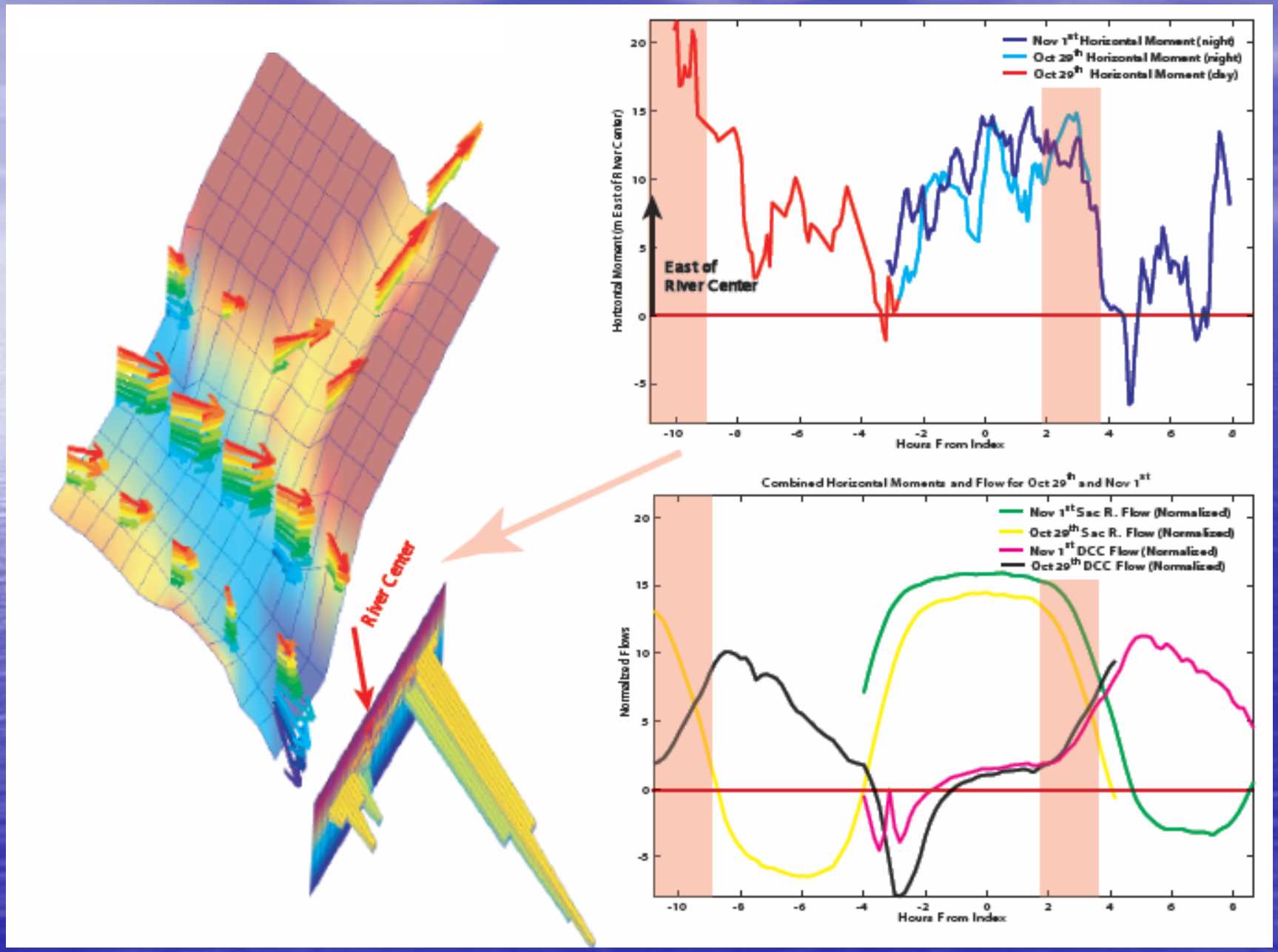
Combine with bathymetry profile to obtain position



Overlay with flow data



Temporal and Spatial analysis



FY04 Products and Schedule

3-d map of fish distributions in junction combined with flow maps and bathymetry to describe-

- Where and when fish are present,
- Where they are going (Tracy, SWP),
- Where they prefer to be in the water column.

For 30 hr study allocate fish distributions to different species. This may also help answer the question of surrogate fishes.

Budget FY04:

Four weeks operation at 24hr day
20k for monitoring operations person on site
40k analysis of data; estimate 3-days for every day of collection

30 hour intensive field study
2 persons 1 week setup and operations 10k
Data analysis 10k

Total FY04 budget 80k

FY 05 and beyond:

Answer the question can we detect fish far enough out to make a difference?

Characterize entrainment
- Identify where fish are coming from
- How fast do they get there