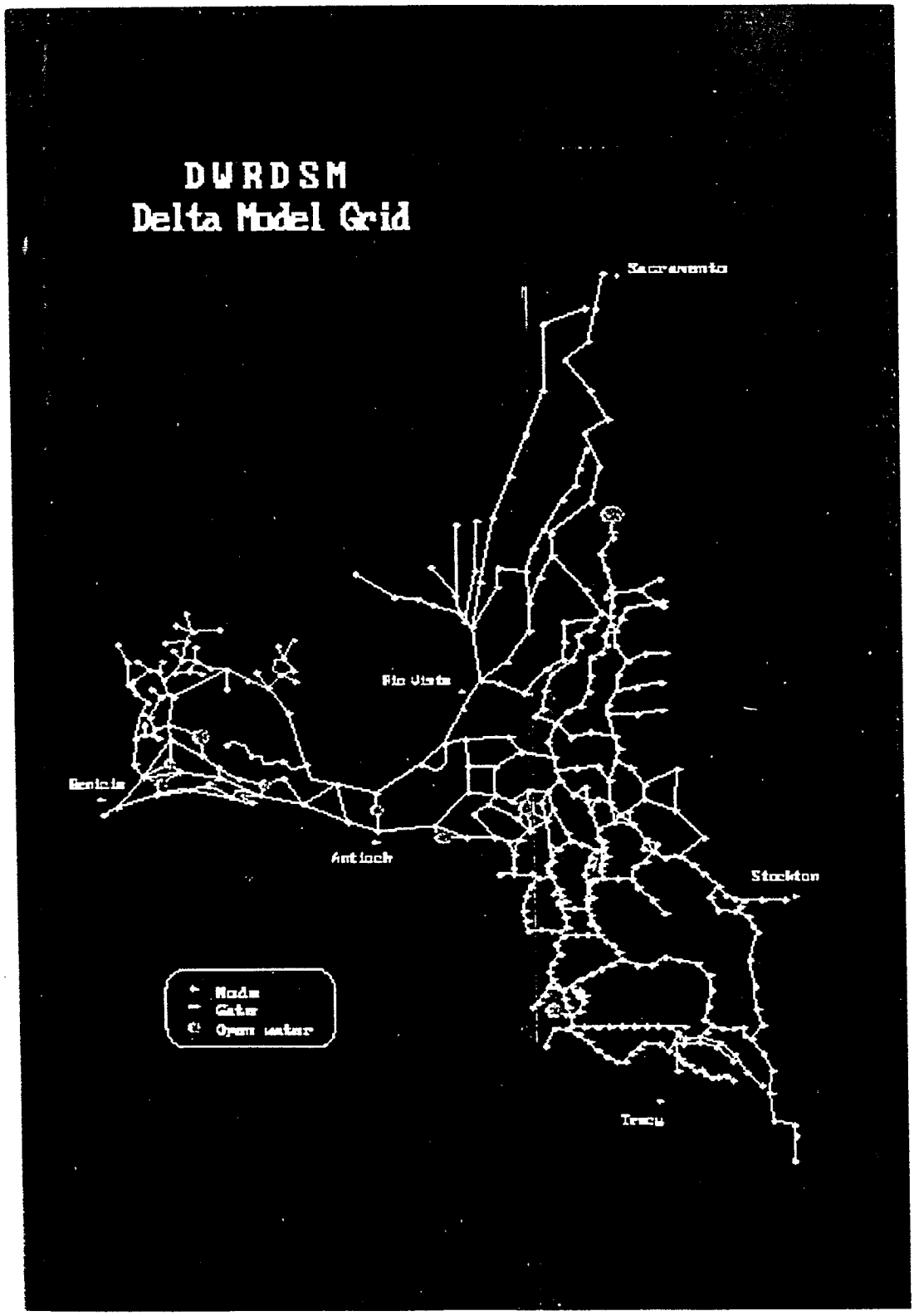
DWRDSM
Delta Model Grid
Sacramento
Rio Vista
Benicia
Antioch
Stockton
Tracy
Node
Gate
Open water

CAPABILITIES OF PTM

- Particles can be inserted at any location
- Each particle is individually tracked
- Particles experience different velocities at various locations within the channel
- Physical characteristics of particles can be modeled

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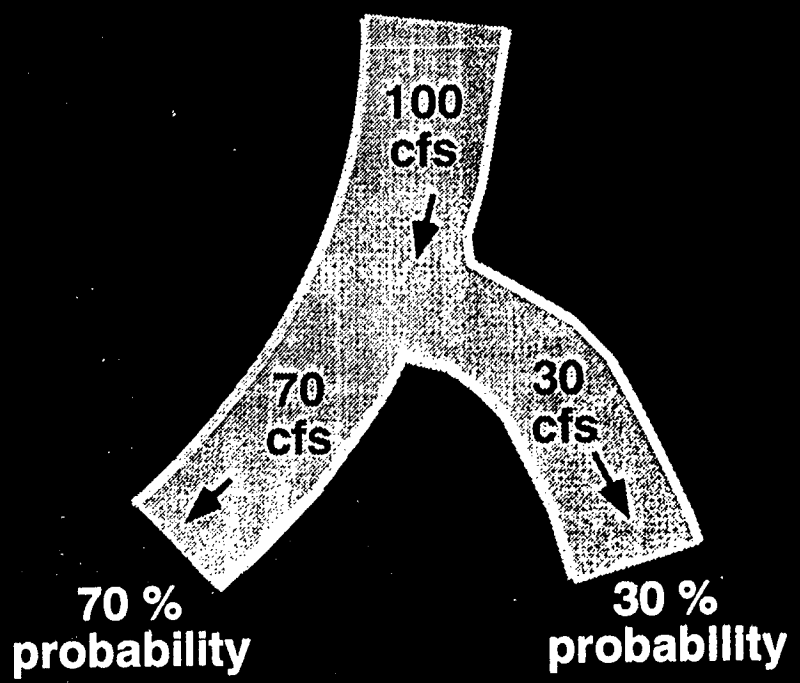
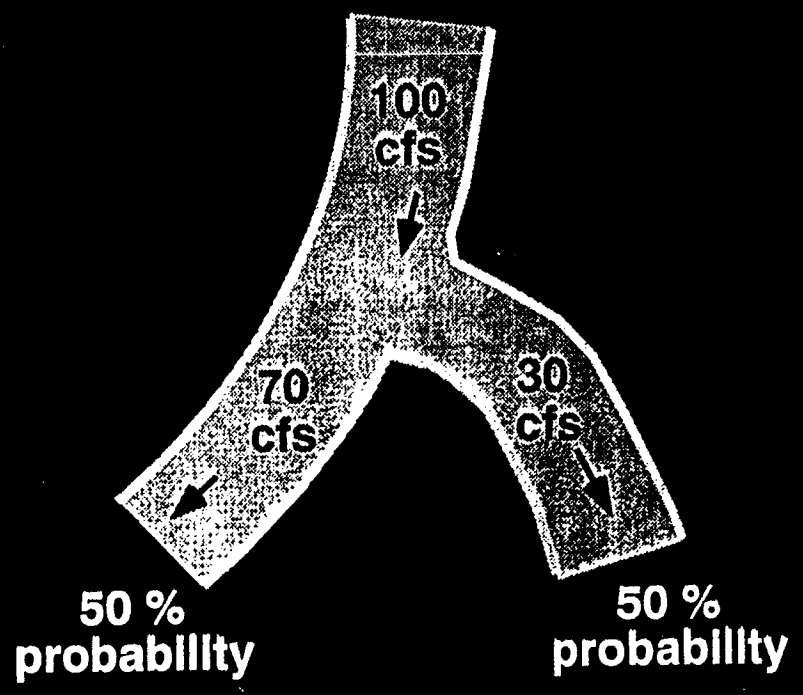
Particles Behavior at a Junction



PROPORTIONAL PROBABILITY



DISPROPORTIONAL PROBABILITY

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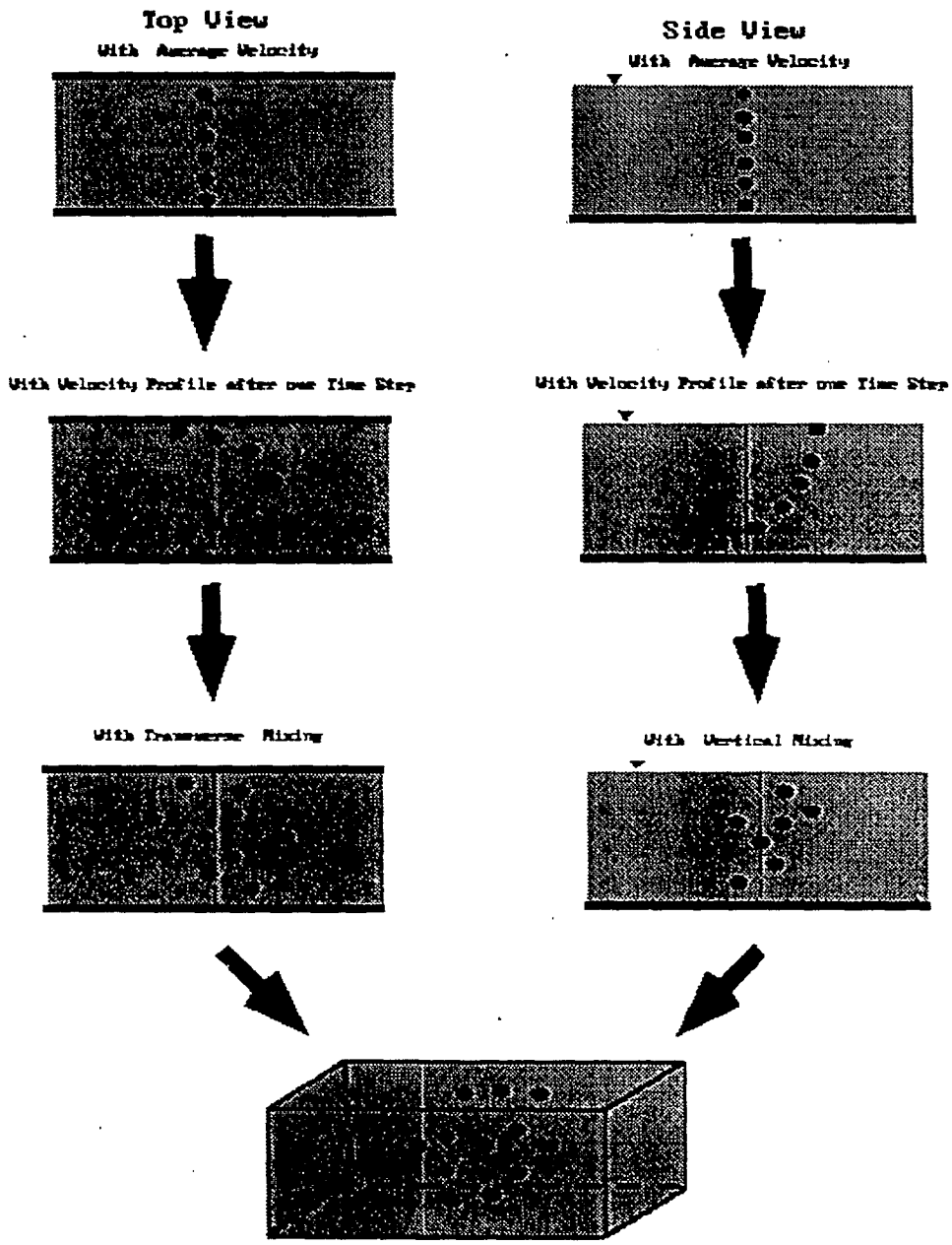
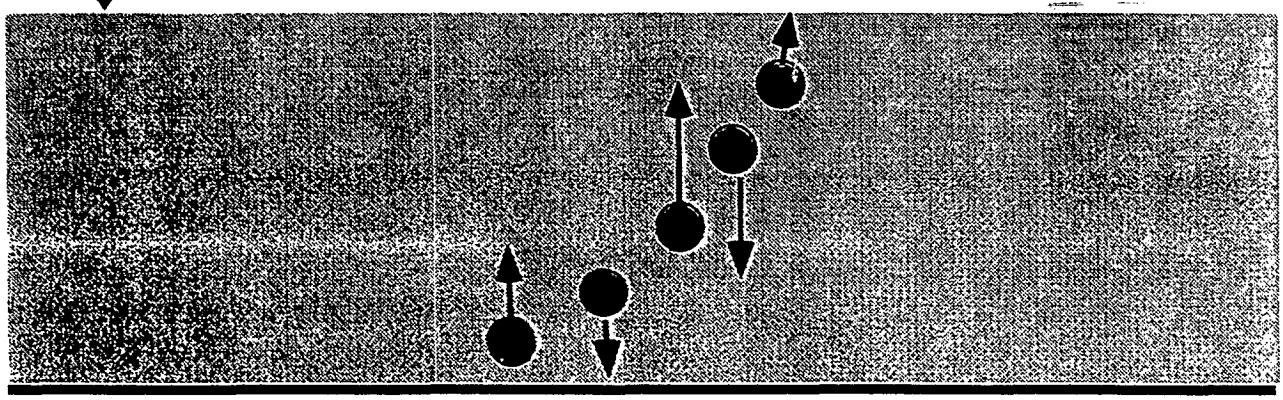
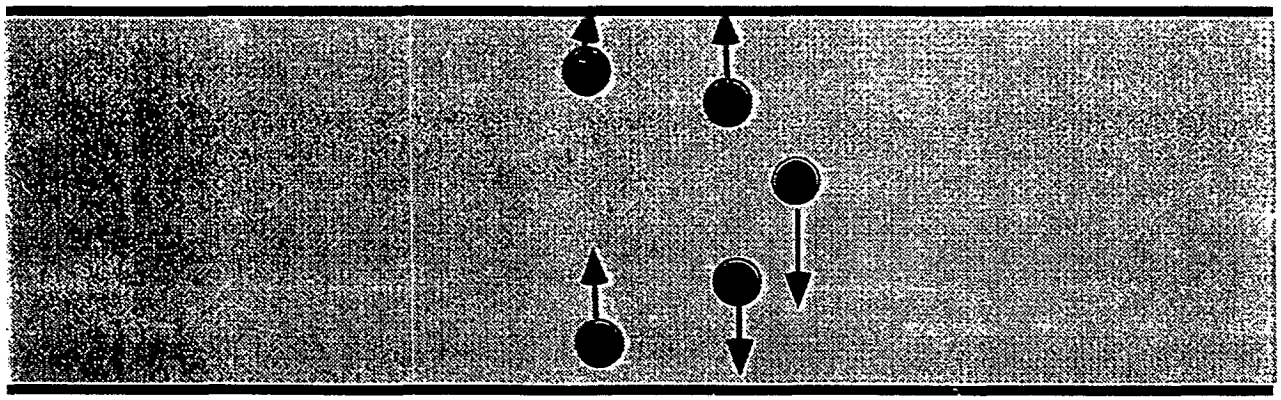
DISPERSION

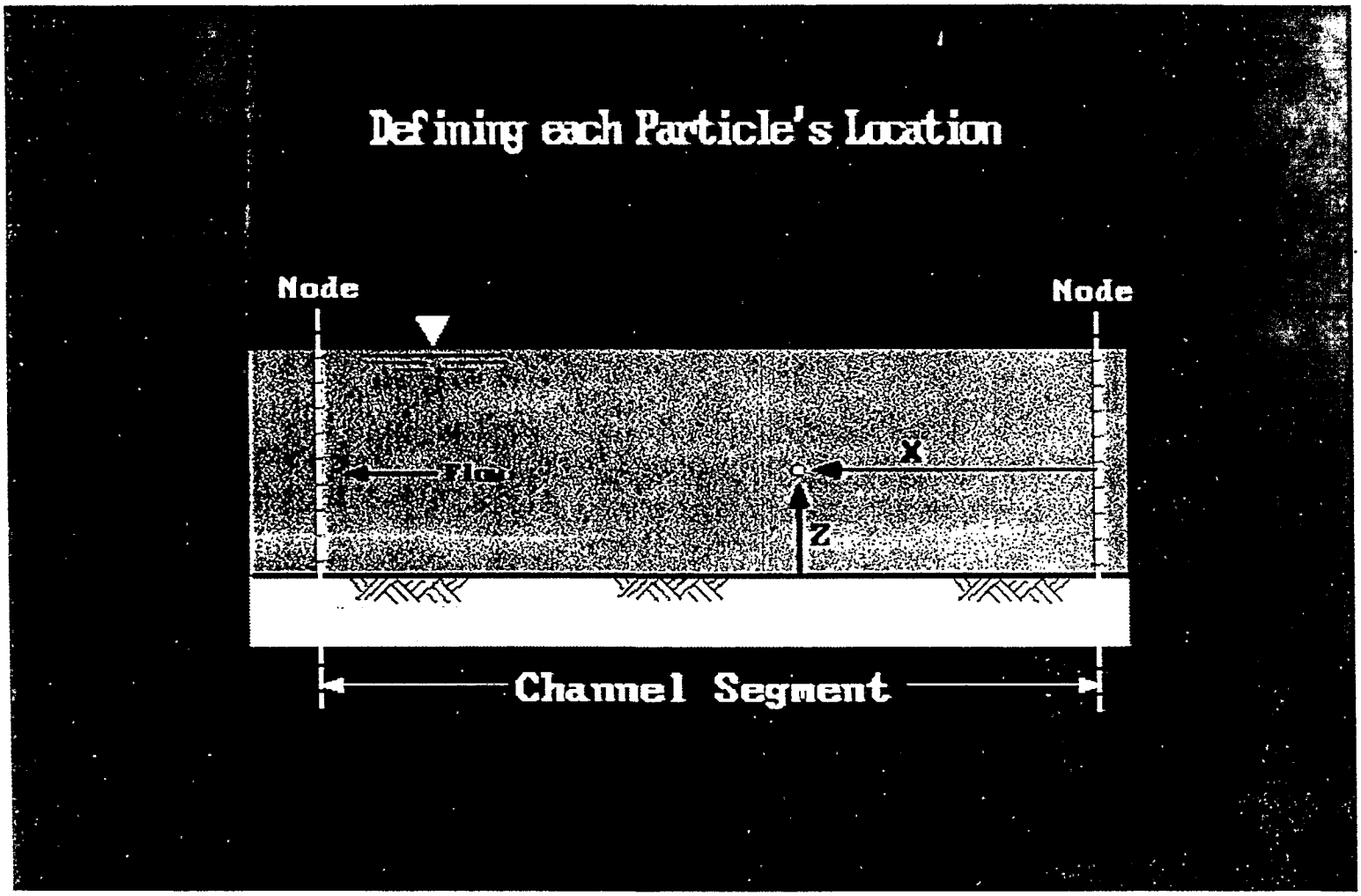

Top View
With Average Velocity
Side View
With Average Velocity
With Velocity Profile after one Time Step
With Velocity Profile after one Time Step
With Transverse Mixing
With Vertical Mixing

Vertical Mixing



Transverse Mixing




Defining each Particle's Location
Node
Node
Flow
X
Z
Channel Segment

Transverse Velocity Profile

f+bf

f

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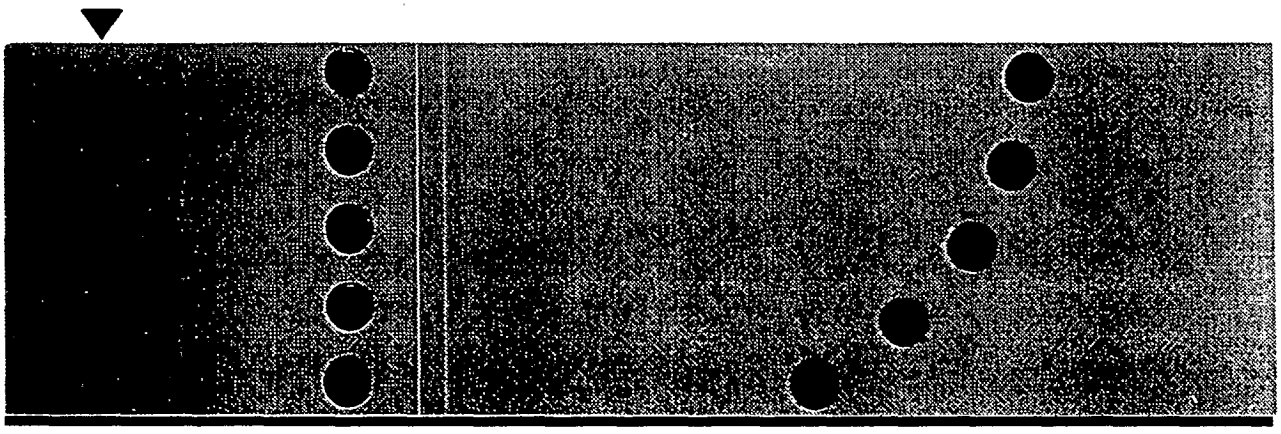
Vertical Velocity Profile



t t+dt

PARTICLE TRACKING MODEL (PTM)

- Description
- Capabilities
- Future Directions

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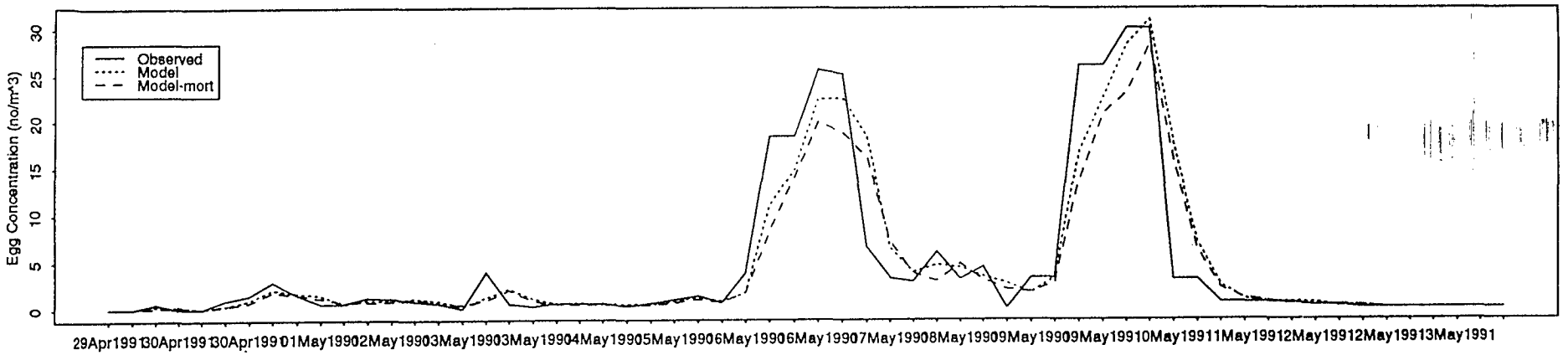
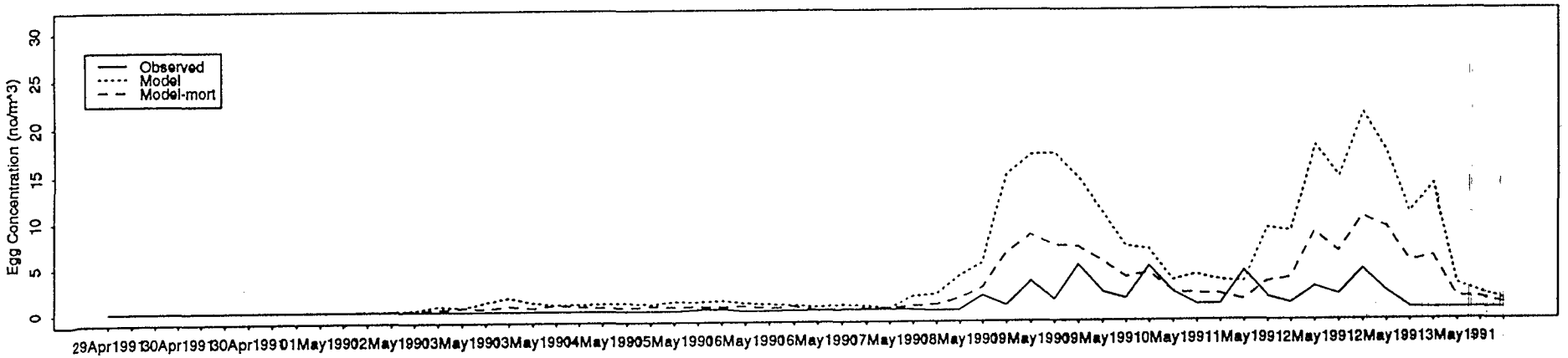
D-002993

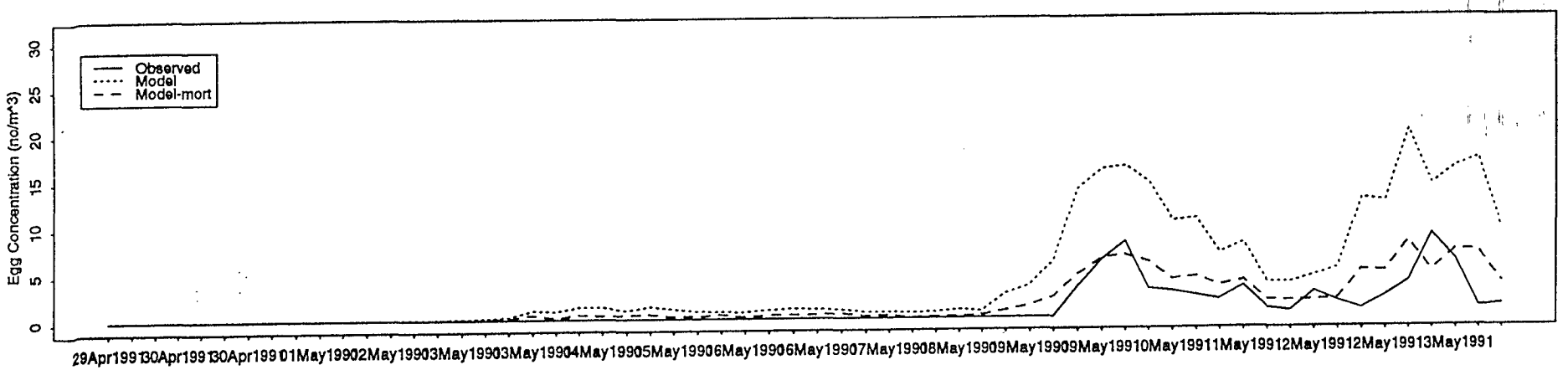
Bryte - No. of Eggs



Courtland Egg Concentrations



Walnut Grove Egg Concentrations



on Jun 26 07:23:32 PDT 1995

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BEHAVIOR OF PARTICLES

- React to Position
- React to Time
- React to Flow
- React to "Quality"

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FUTURE DIRECTIONS

- Continue to make simulations studying the transport processes in the Delta
- Connect PTM to new input system and DSM2 output and make code public
- Make changes to PTM so that particles can model behavior

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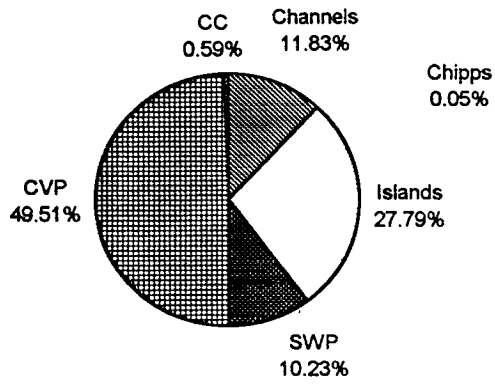
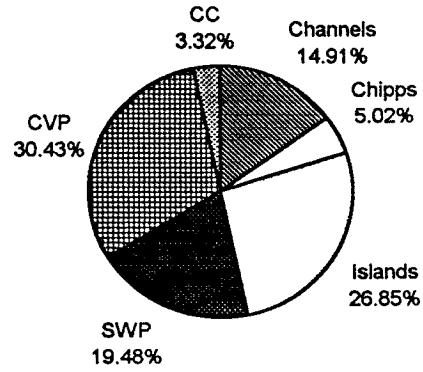
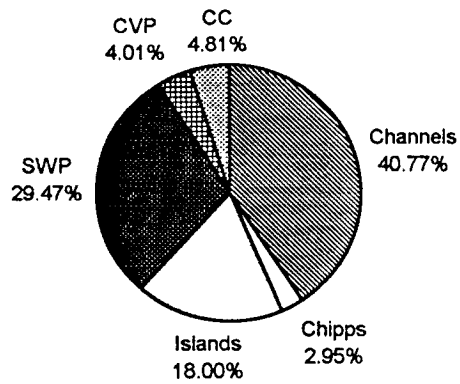
Tracer study based on different injection points

No Barrier

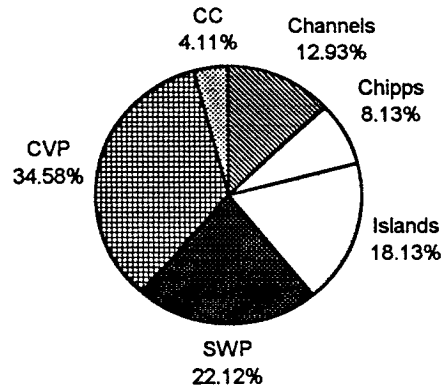


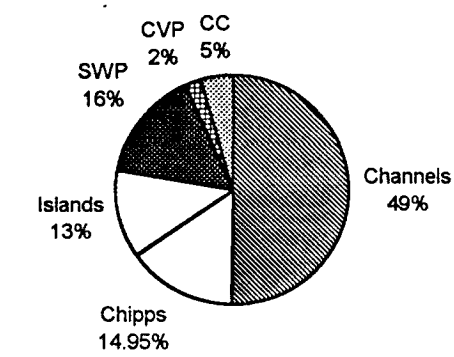
SJR
Vernalis
1



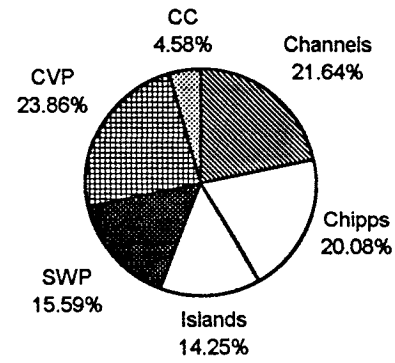
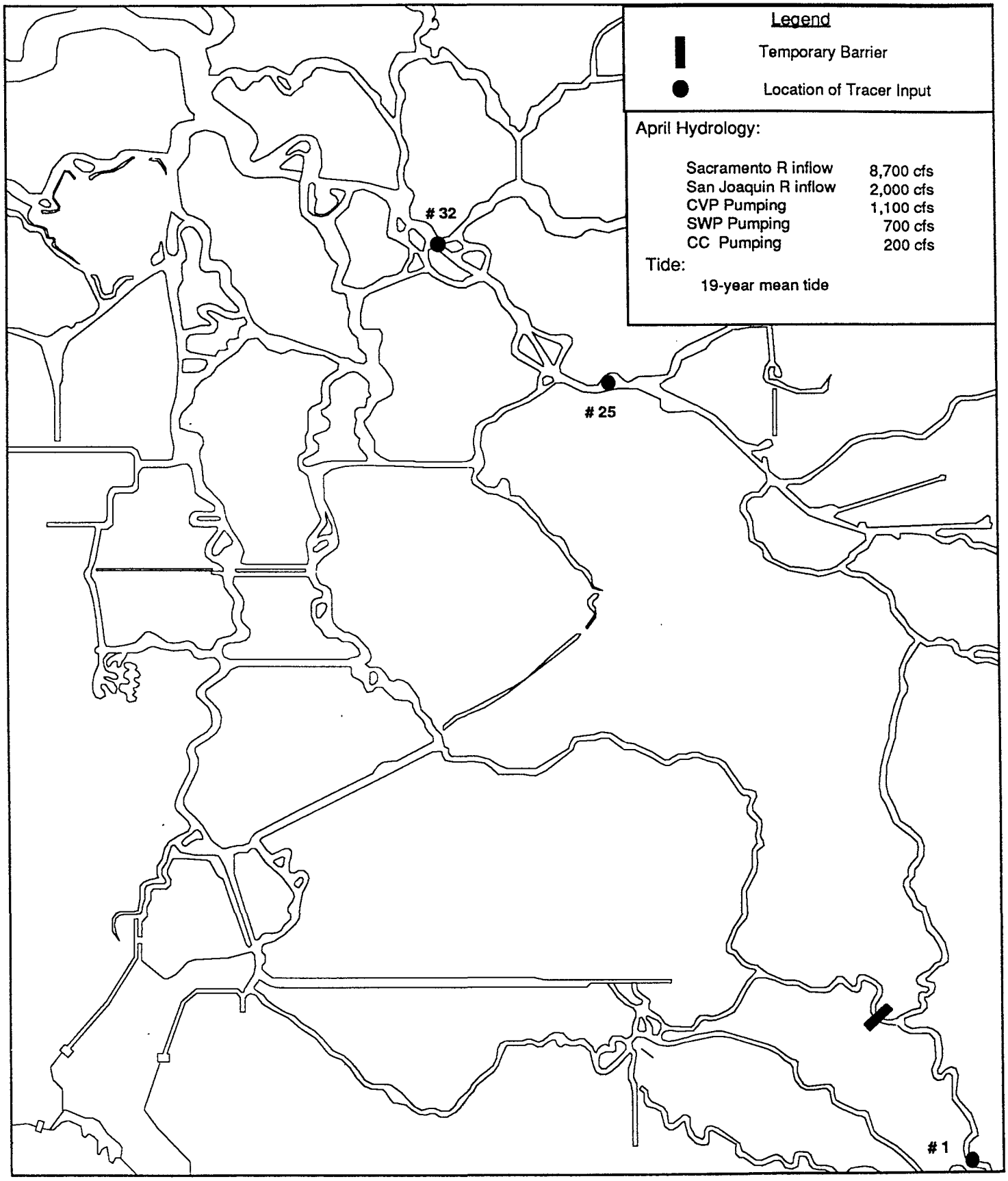


SJR
Turner Cut
25





SJR
Columbia Cut
32



Tracer Study with & without barrier at head of Old River