

Hood Canal Update

Water Quality Partnership

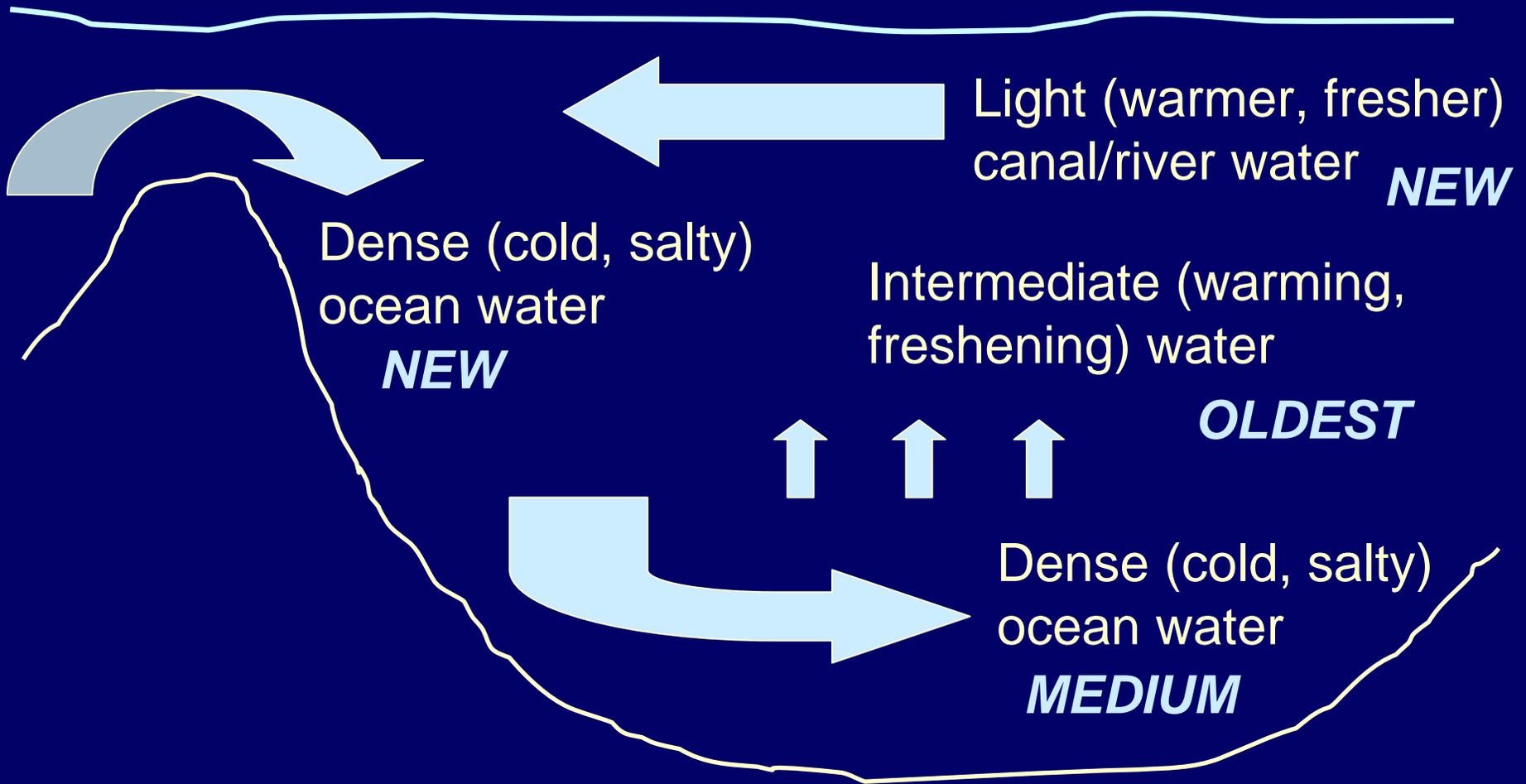
March 17, 2005



Hood Canal Basin



Circulation and Residence Time



Hood Canal Attributes

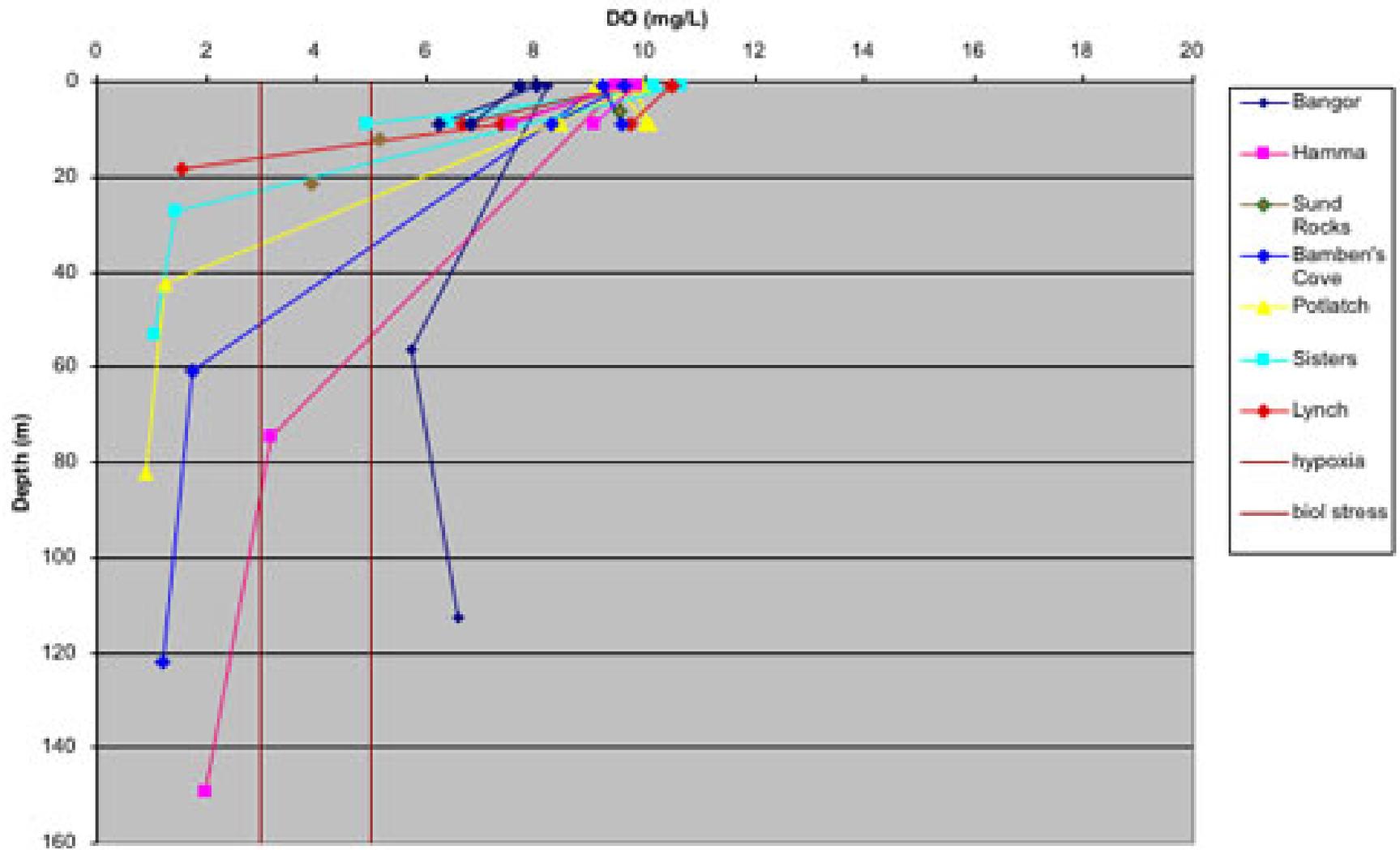
- Strong stratification, distinct layers maintained with different characteristics.
 - *deep waters with low oxygen don't get mixed*
- Slow circulation, long residence time.
 - *bulk of waters are “old” – no air contact*
- High productivity, high organic load.
 - *respired away during decomposition*

Are we seeing long-term change?

- Area of low oxygen may be spreading north and occupying greater volume.
- Low oxygen present year-round.
- Hypoxia developing earlier in year.
- Biological effects may be worsening.
 - fish kill records, diver observations

7,8 July, 2004

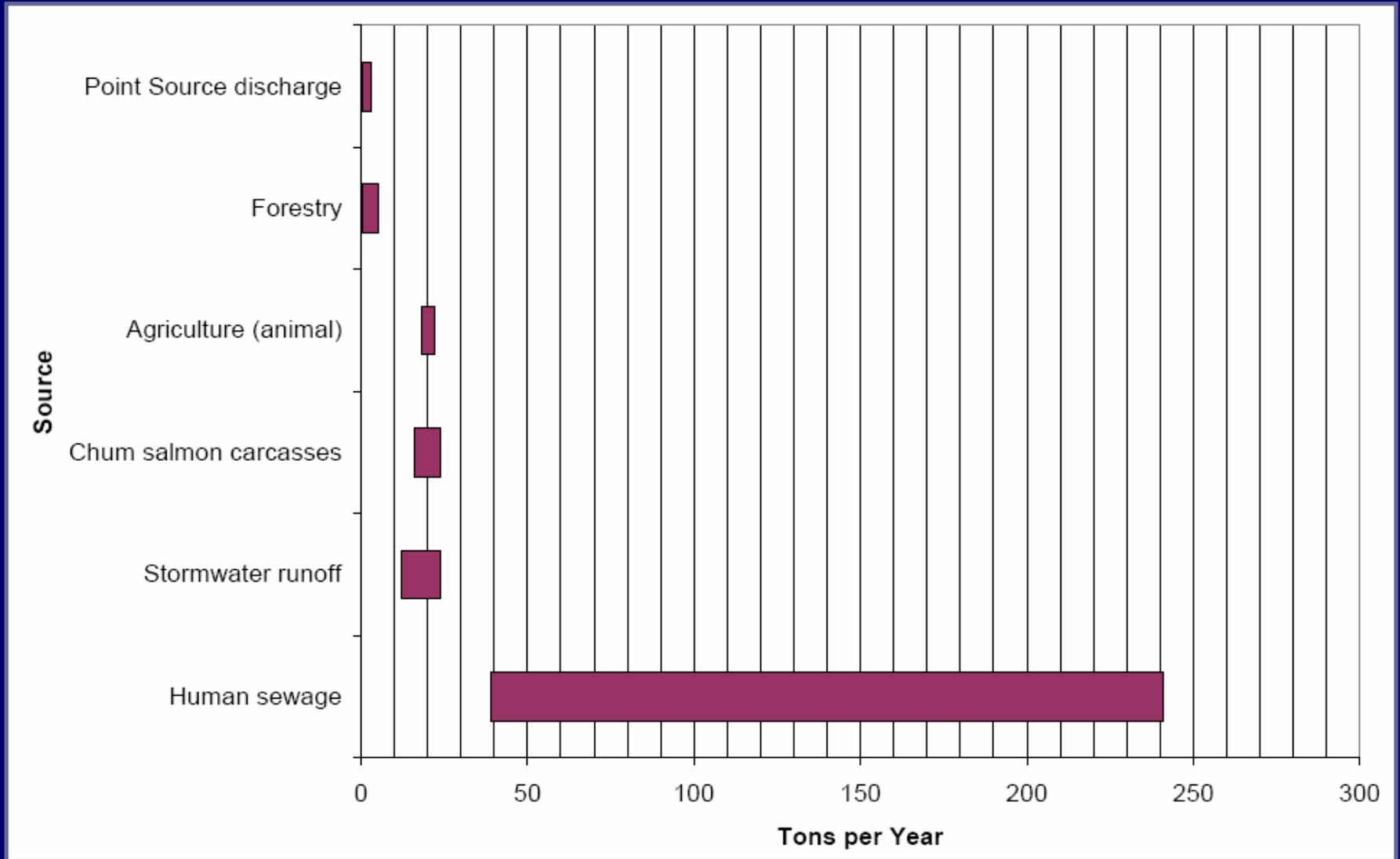
Hood Canal Citizen Monitoring Results
HCSEG and Ecology analysis



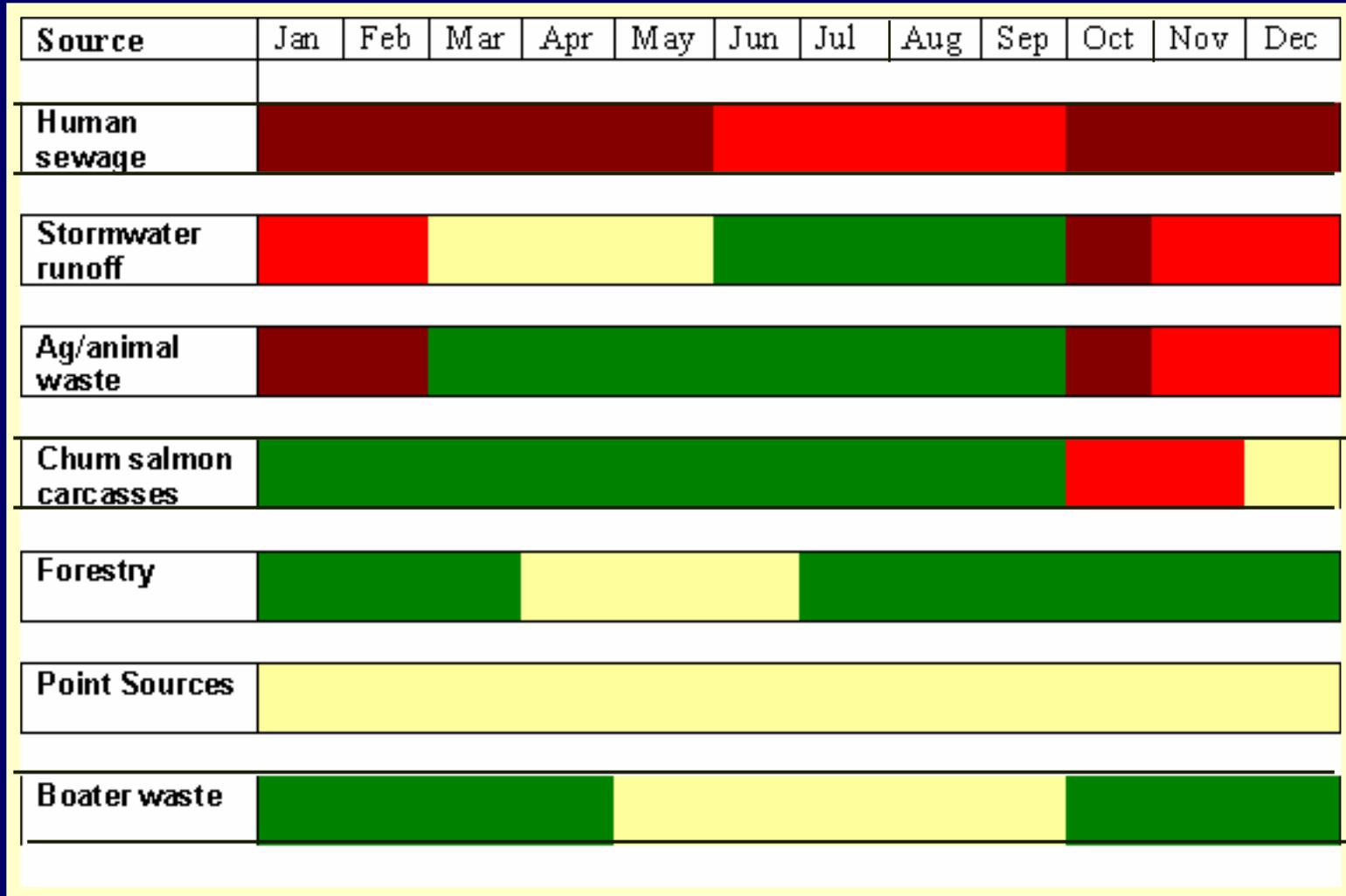




Estimated Range of Nitrogen Inputs to Hood Canal



Timing and Level of Nitrogen Inputs



Corrective Actions

- Implement SW programs, encourage LID practices.
- Upgrade sewage systems.
- Develop sewer plans.
- Eliminate chum carcass disposal in marine waters.
- Develop farm plans & provide funds to manage manure.
- Implement Skokomish River and Union River TMDLs.
- Breach dikes to improve Skokomish estuarine drainage.
- Educate residents.
- Encourage shellfish production.





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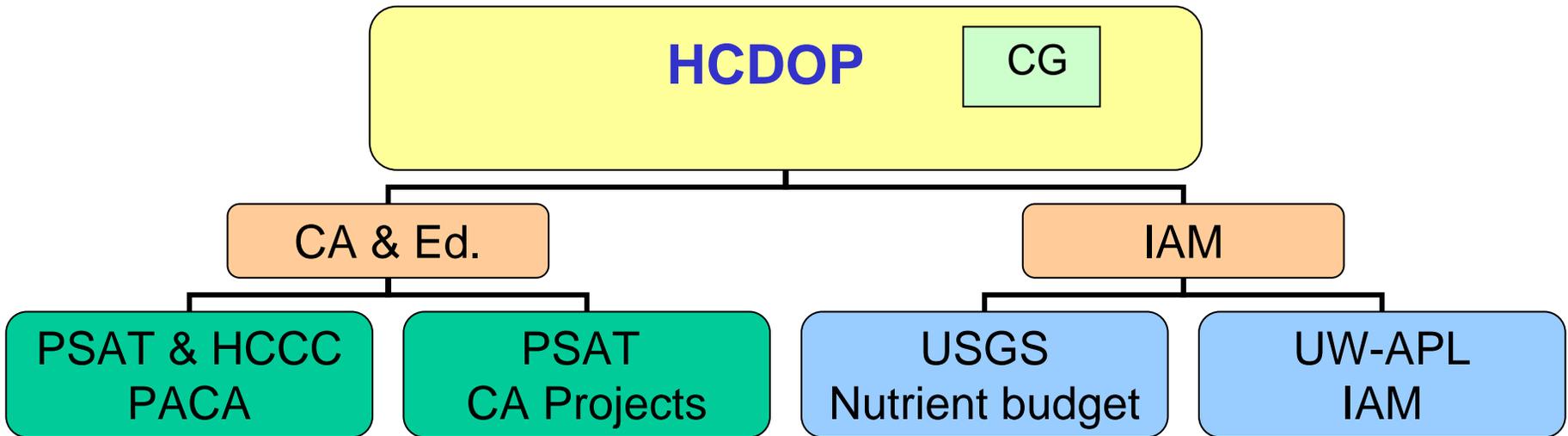
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HOOD CANAL DISSOLVED OXYGEN PROGRAM



HCDDP Coordinating Group

LHCWIC – Bob Hager

PSAT – Duane Fagergren

Ecology– Dick Wallace

UW – Jan Newton

HCSEG – Neil Werner

HCCC – Dave Christensen

USGS – Gary Turney

WDNR – David Roberts

WDFW – Mary Lou Mills

Skokomish Tribe – Keith Dublanica

WDOH – Maryanne Guichard

Kitsap County - Keith Grellner

Mason County – Debbie Riley

Corrective Action and Education

Co-managers: PSAT and HCCC

Tasks

1. Research human-related Nitrogen
2. Publish findings in PACA
3. Fund corrective action projects
4. Enhance education and public involvement
5. Seek funds and adjust programs based on:
 - Results of early action projects
 - New scientific findings (IAM and USGS)

Integrated Assessment & Modeling

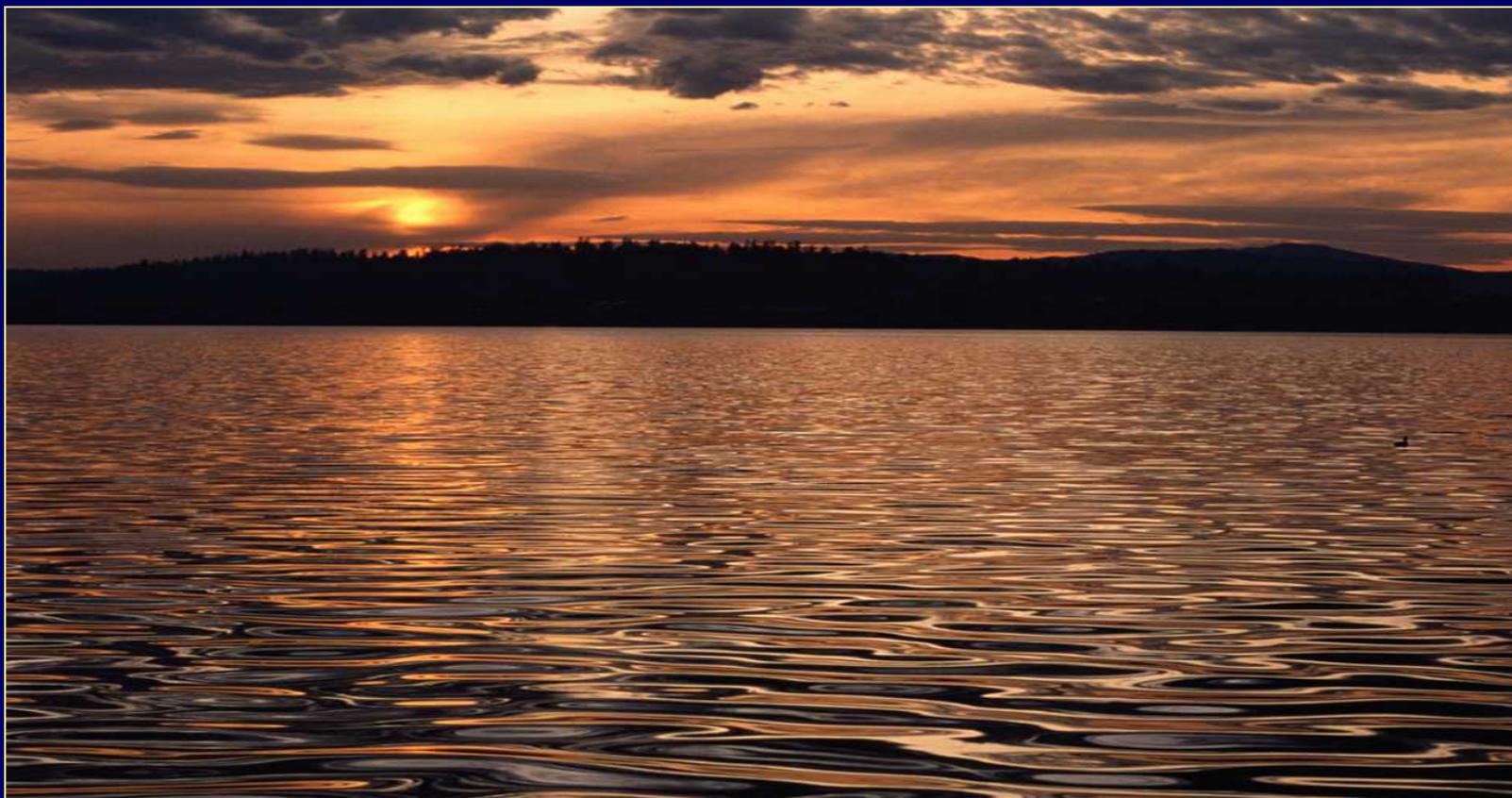
Co-managers: UW-APL and HCSEG

Tasks

1. Program administration
2. Marine water
3. Fresh surface/ground water
4. Biota
5. Modeling and analysis
6. Rapid response & diver program



HUSKIES FOOTBALL
WASHINGTON
60th ANNIVERSARY
CONQUEST



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