Sinclair and Dyes Inlets Fecal Coliform TMDL

Community Advisory Committee

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Cleaning Up Sinclair and Dyes Inlets

- **Ecology is developing a fecal coliform TMDL (water cleanup plan) in cooperation with Navy and EPA**
- **What is a TMDL and why fecal coliform bacteria?**
- **What are we learning from the Navy study?**
- **What are the solutions?**

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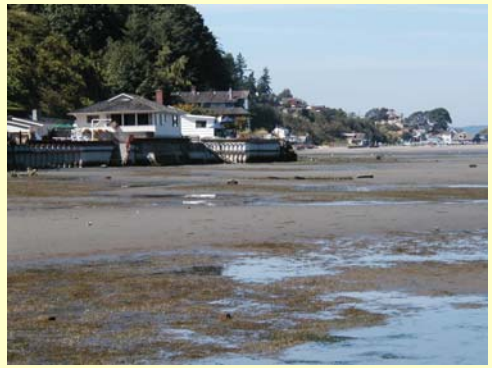
Water Quality Standards Protect These Beneficial Uses

- **Shellfish Harvest**
- **Fishing**
- **Contact Recreation**
  - **Swimming**
  - **Boating**
- **Aquatic Life (Fish & Wildlife Habitat)**
- **Shoreline Development**
- **Commercial & Industrial Activity**
  - **Shipping**
  - **Marinas**
  - **Shipyards**



Fecal Coliform Bacteria as "Indicators"

- **Presence of fecal coliform bacteria in water is correlated with outbreaks of illness**
- **Fecal coliform bacteria are found in the feces of warm blooded animals**
- **No's high if water contaminated with sewage, manure, pet or bird droppings**
- **May not be pathogens themselves but may indicate contamination with viruses, E. coli, Salmonella**

Water Quality Standards for Bacteria

- **Marine standards developed to protect beneficial uses (Shellfishing)**
- **PART 1: Average Concentration (geometric mean)**

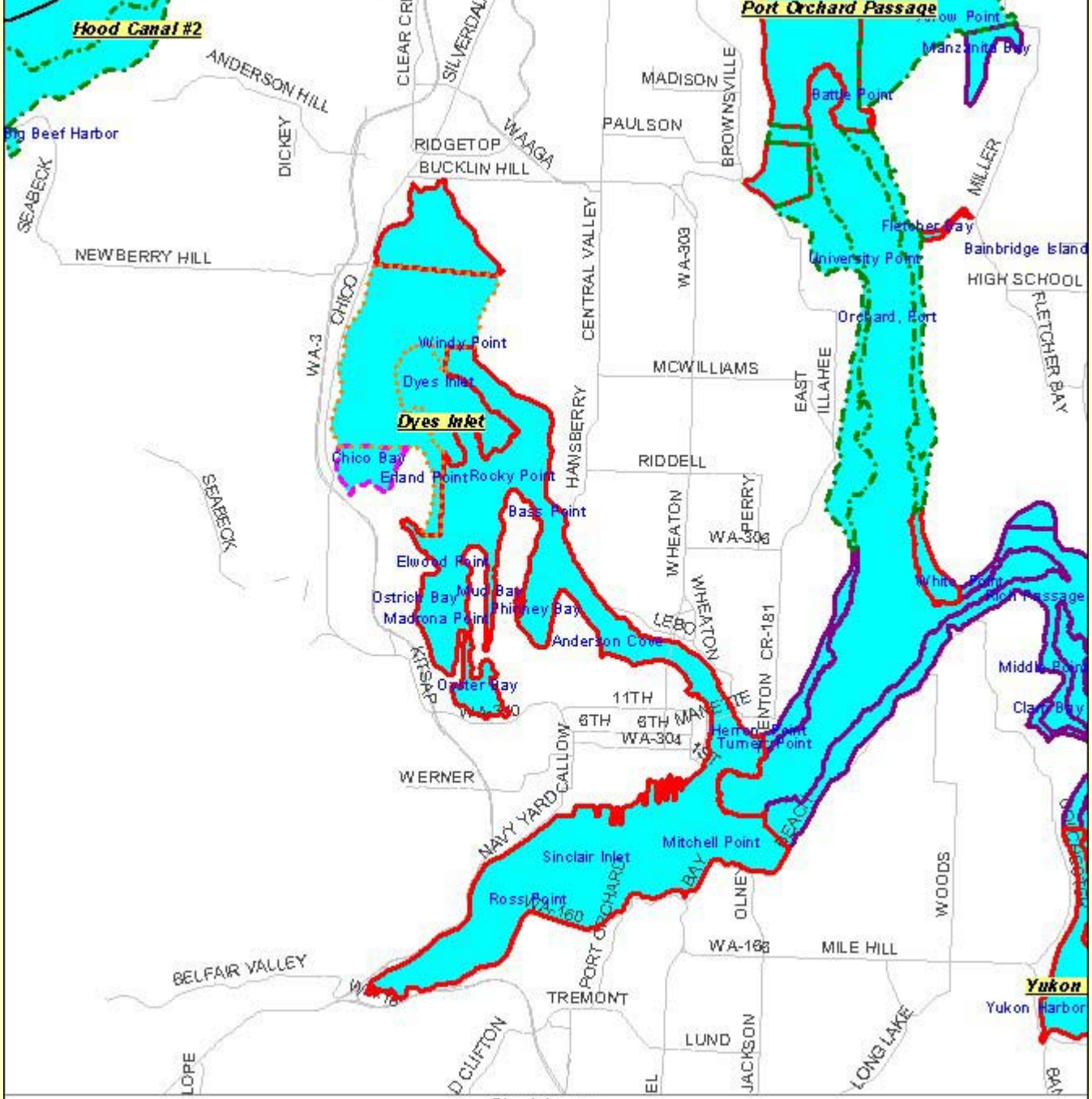
  14 colony forming units per 100 ml

  14 cfu/100 ml
- **PART 2: Spikes (90th Percentile)**

  No more than 10% of the samples can exceed 43 cfu/100 ml

Sinclair and Dyes Inlets:
Status for Commercial Shellfish Harvest (Dept of Health)

- **Outlined in red – prohibited**
- **Outlined in gold - conditional**
- **Outlined in magenta – restricted**
- **Outlined in green - approved**



Disclaimers

The Washington State Department of Health (DOH) does not warranty the accuracy, reliability or timeliness of any information published in this map and assumes

Maps may change without notice.
Maps show commercial classifications only.
For recreational beach classification see:

The Sinclair and Dyes Inlets Water Cleanup Plan will include…

- **Goal of increasing areas open to shellfish harvest (& protect other uses)**
- **Results of the Navy Study –monitoring and modeling (predictions) of bacteria from freshwater sources to the inlets**
- **Plan for reducing bacteria inputs – developed with input from Tribes, local agencies & watershed organizations**

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New understanding of marine water quality that will come from this study

- **Monitoring data for streams shows differences in wet and dry seasons and storm conditions**
- **New data for stormwater outfalls**
- **New data for marine nearshore areas one day after storm event**
- **Watershed-wide comparisons**

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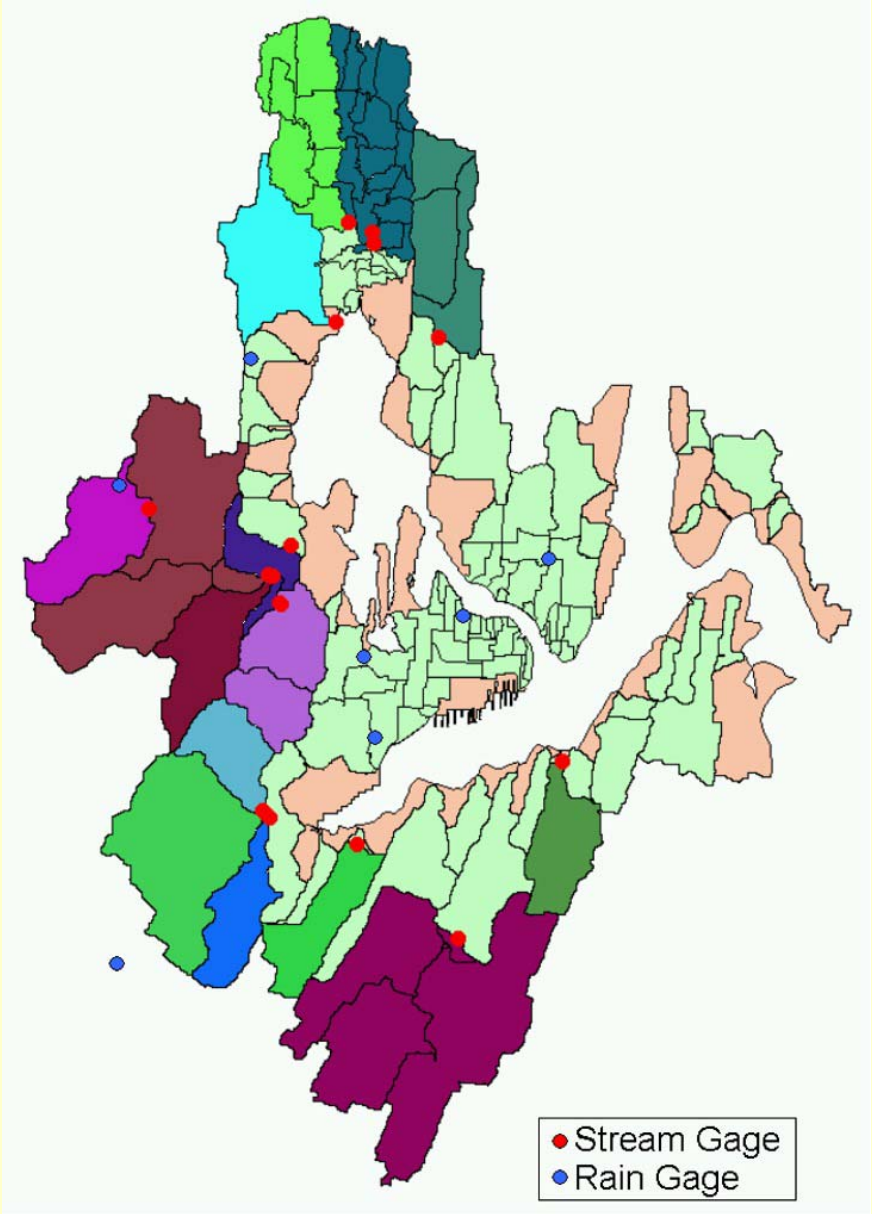
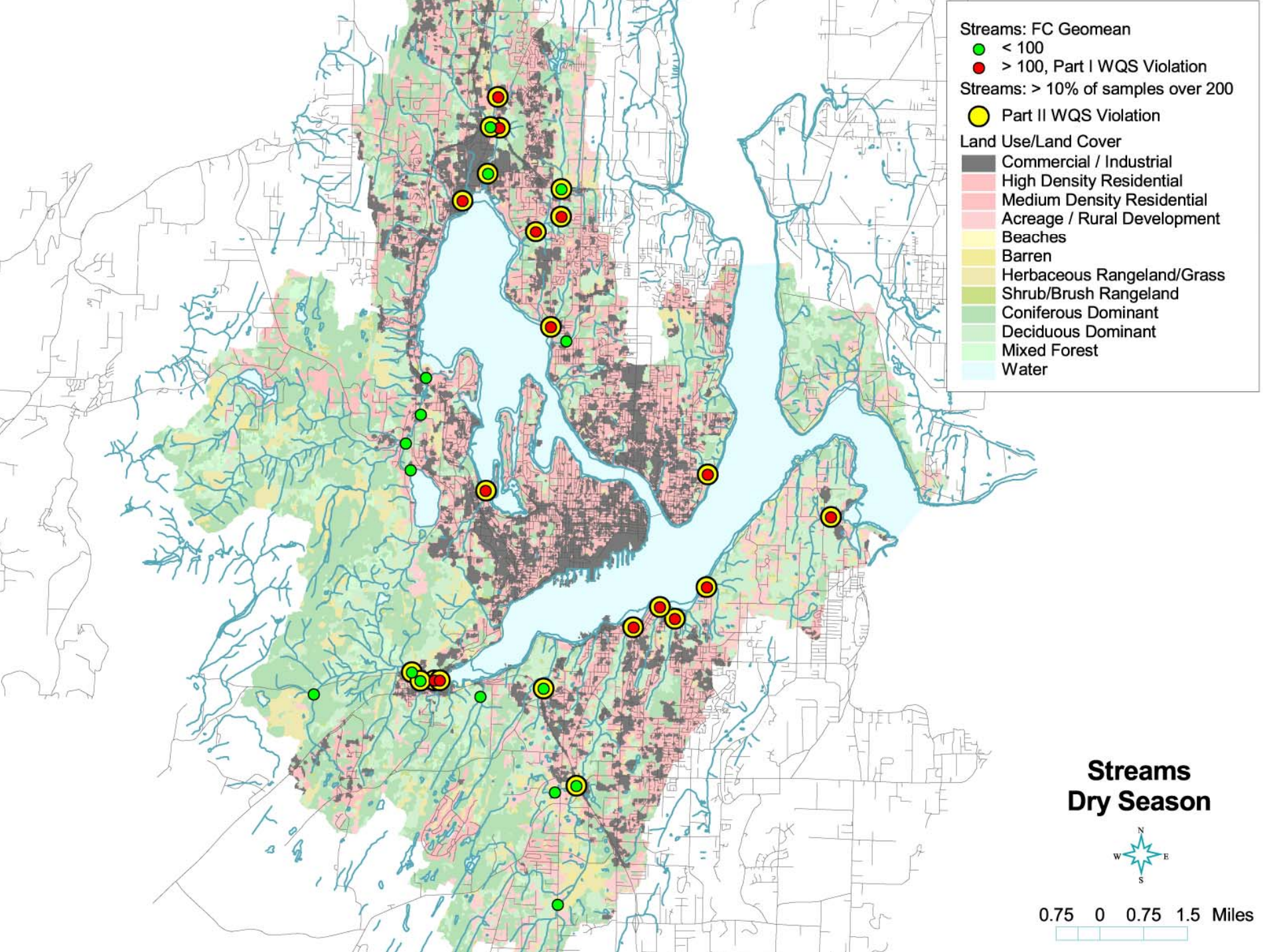
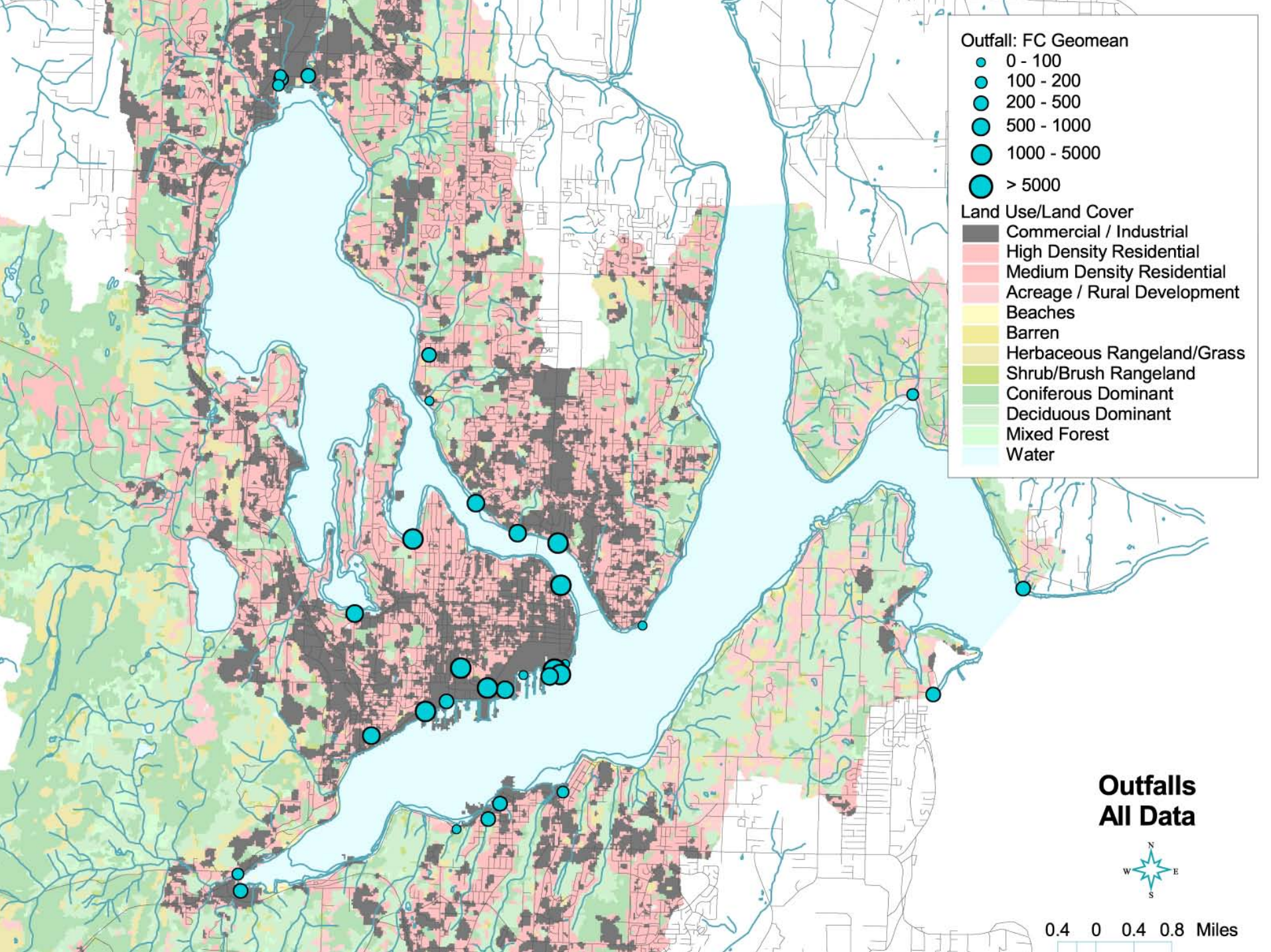
Catchment areas represented within the HSPF watershed model for Sinclair and Dyes Inlets.




Streams: FC Geomean
< 100
> 100, Part I WQS Violation
Streams: > 10% of samples over 200
Part II WQS Violation
Land Use/Land Cover
Commercial / Industrial
High Density Residential
Medium Density Residential
Acreage / Rural Development
Beaches
Barren
Herbaceous Rangeland/Grass
Shrub/Brush Rangeland
Coniferous Dominant
Deciduous Dominant
Mixed Forest
Water
Streams
Dry Season
N
W
E
S
0.75 0 0.75 1.5 Miles


Outfall: FC Geomean
0 - 100
100 - 200
200 - 500
500 - 1000
1000 - 5000
> 5000
Land Use/Land Cover
Commercial / Industrial
High Density Residential
Medium Density Residential
Acreage / Rural Development
Beaches
Barren
Herbaceous Rangeland/Grass
Shrub/Brush Rangeland
Coniferous Dominant
Deciduous Dominant
Mixed Forest
Water
Outfalls
All Data
N
W
E
S
0.4 0 0.4 0.8 Miles

Water Cleanup Plan – After the Study

- **Study shows relative importance of bacteria sources**
- **Ecology proposes cutbacks from all sources**
- **Ecology works with local governments, Tribes, others to plan cleanup strategy**
- **Cleanup actions**
- **Monitoring**

Typical Water Cleanup Plans for Bacteria ask for …

- **Focus on better maintenance and repair of sewage and septic systems**
- **Improvements in stormwater management by local government, industry**
- **Education of citizens about pet waste, manure management and proper boat waste disposal**
- **Improved stewardship of streams and riparian areas by citizens**

Opportunities for Community Advisory Committee

- **Advise the 3 partners (EPA, Navy, Ecology) on public meetings & outreach for the TMDL in 2006**
- **Provide citizen perspective on Water Cleanup Plan's recommendations for implementation**
- **Keep 3 partners aware of local water quality priorities and planning processes**

Clean water benefits all of us! Thanks for staying involved!

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