

# Mid-Coast Bacteria TMDL: Sixteenth TWG Meeting

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Oregon DEQ

July 15, 2015



# Meeting Objectives

- Beach Results Review
- Update on Big Elk Creek modeling
- Overview of additional watershed modeling

# Beach Review Results



"Yaquina Head Lighthouse (Agate Beach, Oregon)"  
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## Beach Information Review

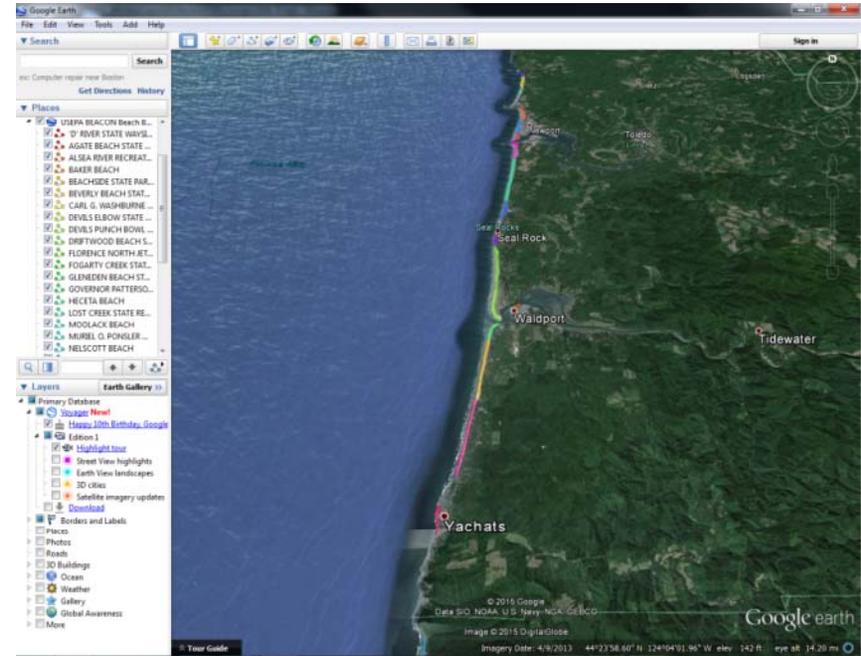
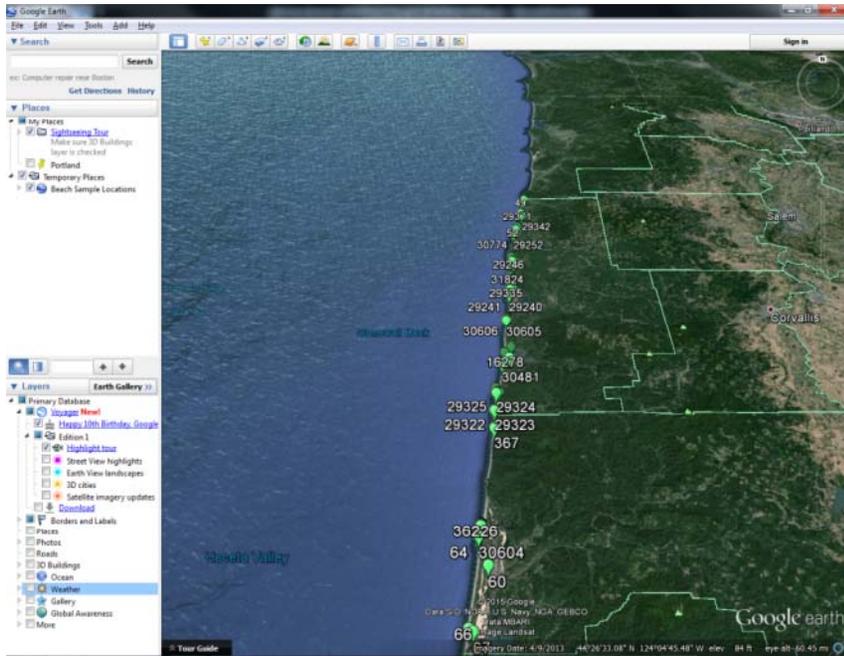
Use this form to review bacteria data and suggest potential sources

### Station (and additional stations that these answers apply)

If you think similar conditions to this location exist, you can add sample location numbers of the similar locations. Please separate the sample location numbers by a "," (comma).

Timestamp	Station (and additional stations that these answers apply)	High use dates	Number of people at the beach	% of people in water on activities at the beach	Types of water sources at the beach
11/24/2014 8:08:03	29245	3 august	50-100	25% to 50%	Dog walking, River or stream, Outfall (storm sewer, road runoff)
12/2/2014 13:54:37	29370	5 December 2, 2014	> 1000	50% to 75%	Dog walking, River or stream, Pond or Stream
12/2/2014 19:58:40	29330	1 Holiday weekends (Mem)	10-50	10% to 25%	Fishing, crabbing, clamming, River or stream, Pond or Stream
12/3/2014 16:59:09	53	3 Surfing beach, high use	50-100	10% to 25%	Water sport (surfing, windsurfs, septic tank across)
12/3/2014 17:06:33	29335	4 Summer holiday weekend	50-100	10% to 25%	Dog walking, Beachgoing, Outfall (storm sewer, road runoff)
12/3/2014 17:15:42	54	2 weekends and holiday weekend	100-500	10% to 25%	Swimming, Water sport (River or stream, Seeps)
1/22/2015 14:53:00	29251				
2/3/2015 13:24:11	29340	4 July 4, labor day	100-500	10% to 25%	Swimming, Water sport (River or stream, Outfall (storm sewer, road runoff)
4/13/2015 13:04:30	30481	first week of June through	10-50	10% to 25%	Dog walking, Beachgoing
4/13/2015 13:06:36	30482		10-50	10% to 25%	Swimming, Dog walking, River or stream, Outfall (Storm sewer)
4/13/2015 13:08:29	29329		50-100	25% to 50%	Fishing, crabbing, clamming, River or stream, Outfall (Storm sewer)
4/13/2015 13:11:04	29328	June through November	50-100	50% to 75%	Fishing, crabbing, clamming, River or stream, Outfall (Storm sewer)
4/13/2015 13:13:26	30065		10-50	10% to 25%	Dog walking, Beachgoing, Seeps
4/13/2015 13:14:14	30066	summer weekends	10-50	10% to 25%	Dog walking, Beachgoing, Seeps
4/13/2015 13:16:09	30068		50-100	25% to 50%	Swimming, Dog walking, River or stream, Seeps
4/13/2015 13:16:58	31560	summer weekends	50-100	10% to 25%	Swimming, Dog walking, River or stream
4/22/2015 14:52:17	31823, 31824, 31825	1 May through November	500-1000	50% to 75%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/22/2015 15:13:04	34726, 34727, 61	1 May through November	500-1000	50% to 75%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/22/2015 15:17:08	29340, 29348, 29349	1 May through November	500-1000	50% to 50%	Swimming, Water sport (Big creek, historically can run)
4/22/2015 15:31:08	33170, 33171, 58	1 May through November	> 1000	50% to 75%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/29/2015 19:31:02	57				
4/30/2015 14:31:38	49	3 Sunniest/ warmest week	500-1000	10% to 25%	Swimming, Water sport (River or stream, Pond or Stream)
4/30/2015 14:39:44	29260,29346,50,29259,25	1 Summer weekend day at	> 1000	10% to 25%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/30/2015 14:42:30	29344	1 100F in valley weekend d	> 1000	10% to 25%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/30/2015 14:47:01	51	4 Summer day - 100 F in v	50-100	50% to 75%	Swimming, Water sport (River or stream, Pond or Stream)
4/30/2015 14:53:07	293,692,937,029,371	2 100F in Valley weekend	100-500	10% to 25%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/30/2015 15:00:03	293,432,934,129,342	2 July 4th Boost - Thous	> 1000	10% to 25%	Swimming, Water sport (River or stream, Outfall (Storm sewer))
4/30/2015 15:03:24	19999	5 July 4th - kayaking trip w	0-10	75% to 100%	kayaking, River or stream, Sewer outfall
4/30/2015 15:08:00	29,257,292,563,048,600,6	3 August or 100F weekend	100-500	10% to 25%	Swimming, Water sport (Pond or wetland, Outfall (Storm sewer))
4/30/2015 15:14:05	52	4 Summer afternoon	10-50	0% to 10%	Swimming, Water sport (Pond or wetland, Outfall (Storm sewer))
4/30/2015 15:19:21	29,254,292,533,077,400,6	3 August Summer Day -	100-500	25% to 50%	Swimming, Fishing, crab or stream, Ponded (Storm sewer)
4/30/2015 15:23:10	29250,53,29249	1 Surf Events	500-1000	75% to 100%	Swimming, Water sport (Seeps)
5/12/2015 8:41:45	60	3 Generally highest use is	10-50	10% to 25%	Swimming, Water sport (River or stream, Outfall (Storm sewer))

# Beach Review Results



# Beach Review Results: Overview

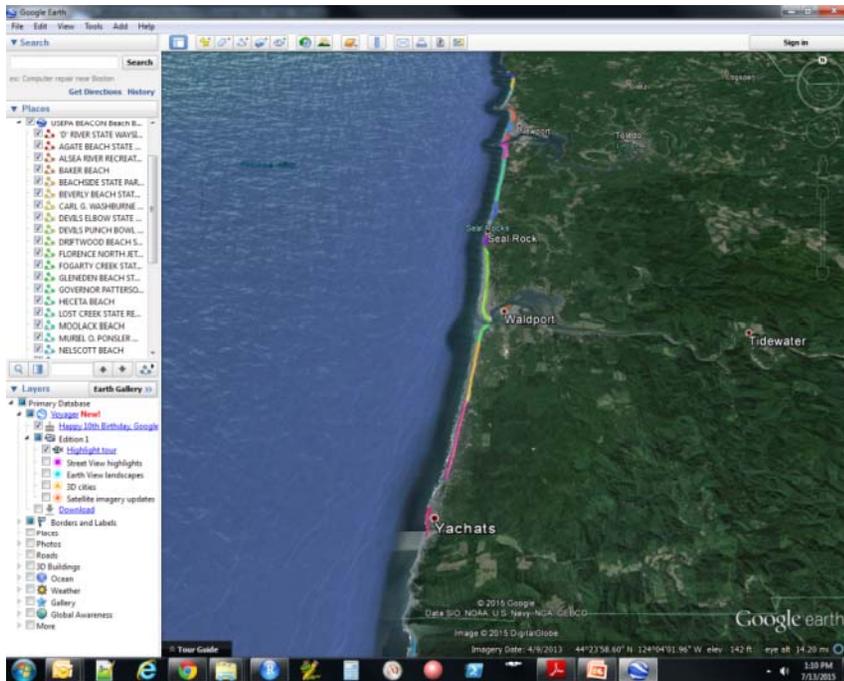


## Beach Information Review

The form "Beach Information Review" is no longer accepting responses. Thank you for your input. Please contact Kevin Brannan at [brannan.kevin@deq.state.or.us](mailto:brannan.kevin@deq.state.or.us) if you have any questions.

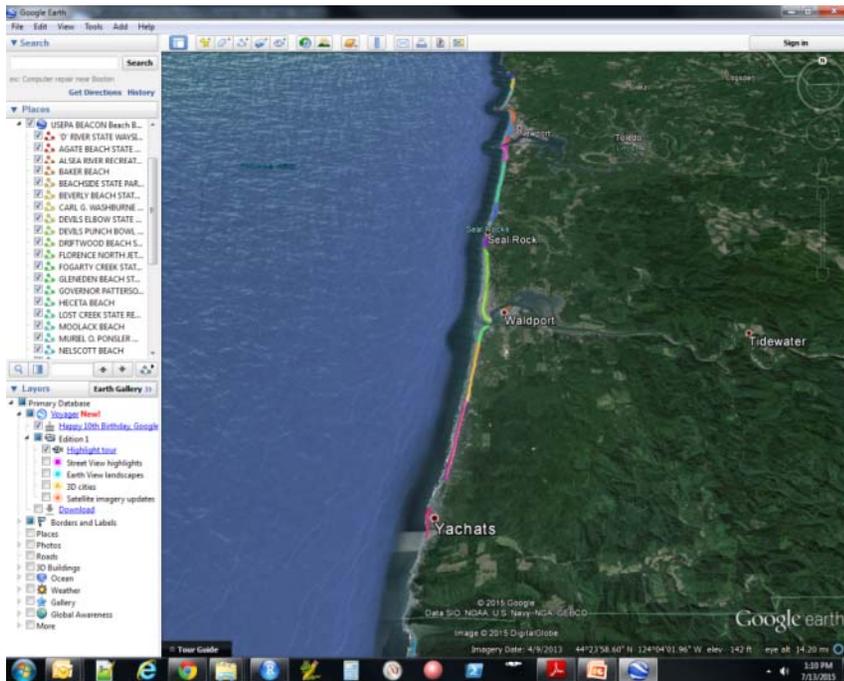
- End date: May 30, 2015
- Total responses: 64
- Stations reviewed: 87
- Stations/Reviewer: 102
- Beaches reviewed: 18

# Beach Review Results: General



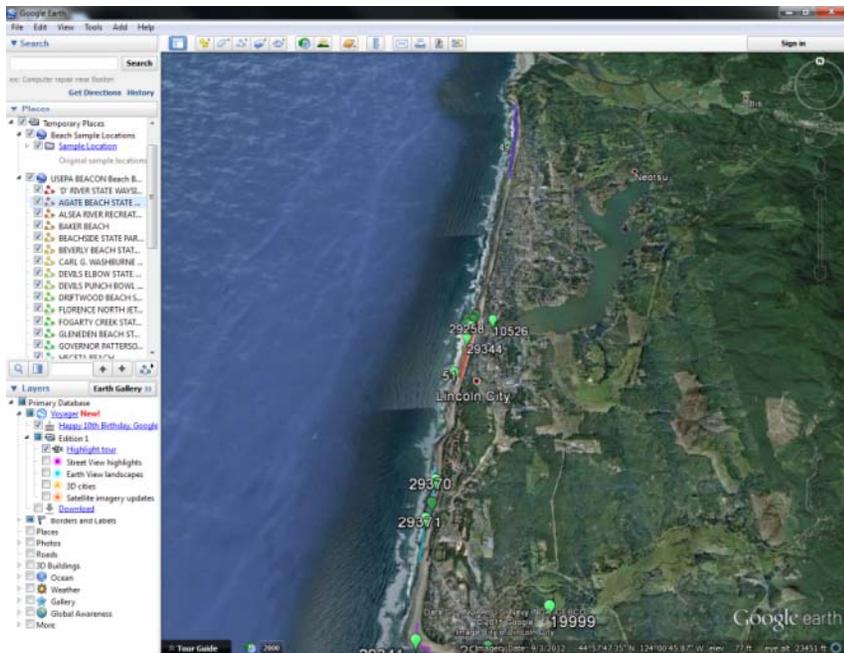
- 87 stations reviewed out of 87 stations
- 24 beaches with stations out of 34 beaches
- 18 beaches reviewed out of 24 beaches with stations

# Beach Review Results: General (continued)



- **Examples of water discharges identified top three:** River or stream, Seeps, and Outfall (storm sewer, road culvert, or not specified)
- **Examples of animals top three:** Birds (only), Birds and carcasses of birds or mammals, and Birds and Domestic animals

# Beach Review Results: Beach Example D River - Lincoln City, OR



- Number of station = 8
- Number of stations with conc above criterion = 8
- Number of stations reviewed = 5

## Beach Review Results: Beach Example D River - Lincoln City, OR (continued)

- Number of people at beach on High Use days  
500-1000 (6), 100-500 (1), and 50-100 (1)
- % of people at beach on High Use days  
50%-75% (3), 75%-100% (3), and 10%-25% (1)

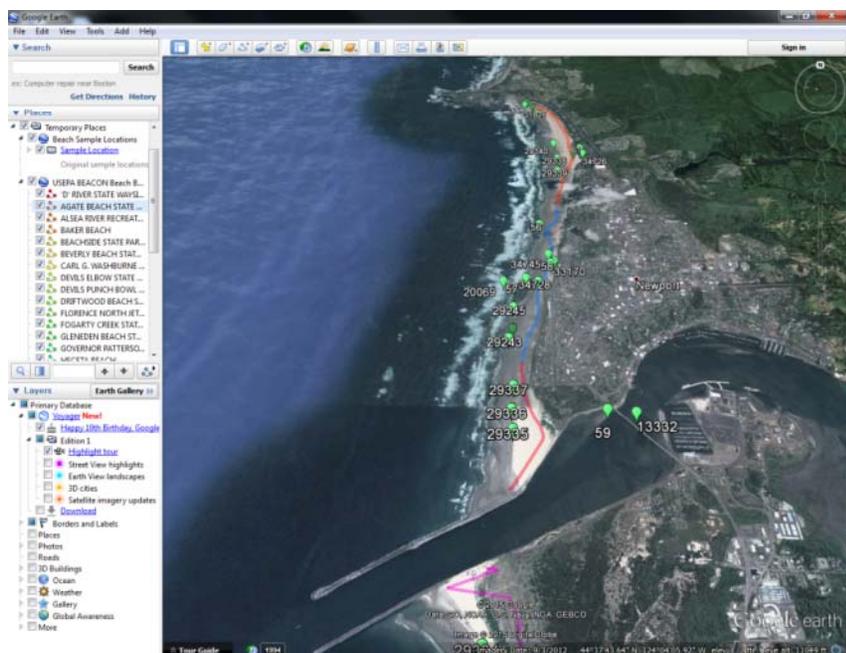
## Beach Review Results: Beach Example D River - Lincoln City, OR (continued)

- Types of debris or litter found on beach (top three):  
Street Litter, Fishing Debris , and Food Related
- Animals present on beach (top three):  
Birds, Bird or Mammal Carcass, and Domestic
- Odors present on beach (top three):  
Algae, Dead Fish, Crabs

## Beach Review Results: Beach Example Around Lincoln City, OR (continued)

- Activities on beach (top three):  
Dog Walking, Beach Going, and Water Sport
- Types of water sources and discharges present at beach (top three):  
Stream, Seeps, and Outfalls

# Beach Review Results: Beach Example Agate and Nye Beach - Newport, OR



- Number of station = 6
- Number of stations with conc above criterion = 3
- Number of stations reviewed = 5

## Beach Review Results: Beach Example Around Newport, OR (continued)

- Number of people at beach on High Use days (top three)  
0-10 (50), 500-1000 (27), and > 1000 (23)
- % of people at beach on High Use days (top three)  
50% to 75% (33), 10% to 25% (33), and  
25% to 50% (26)

## Beach Review Results: Beach Example Around Newport, OR (continued)

- Types of debris or litter found on beach (top three):  
Street Litter, Fishing Debris, and Food Related Litter
- Animals present on beach (top three):  
Birds, Bird or Mammal Carcass, and Domestic
- Odors present on beach (top three):  
Algae, Dead Fish, and Crabs

## Beach Review Results: Beach Example Around Newport, OR (continued)

- Activities on beach (top three):  
Dog Walking, Beach Going, and Water Sport
- Types of water sources and discharges present at beach (top three):  
River or Stream, Seeps, and Outfall (all close at top of list)

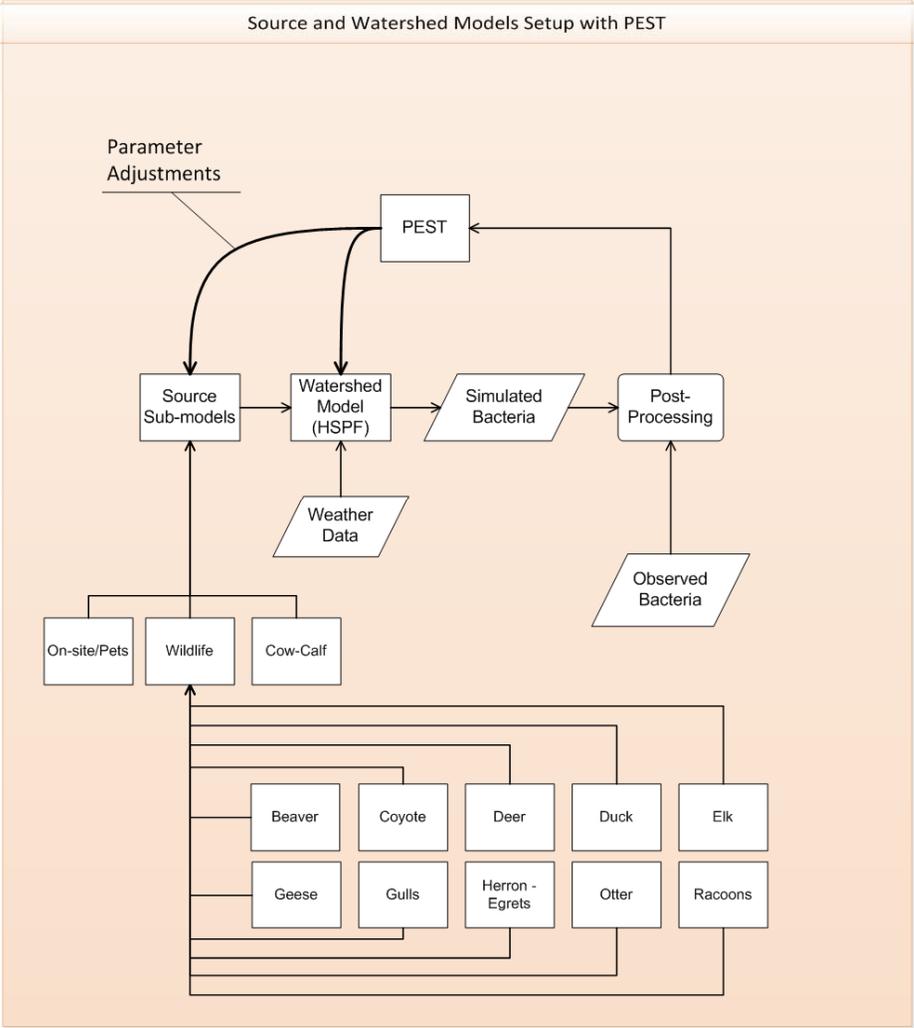
# Beach Review Results: Analysis Suggestions

- How can we focus on high potential sources?
- What information from the Beach Review could a DMA use?
- Can we adapt the review system for implementation?
- ...

# Watershed Modeling: Big Elk Creek

- Extended the simulation period
  - New simulation period 1995-10-01 to 2014-05-31
  - Previous simulation period 1995-10-01 to 2010-12-31
- Contractor reviewing overall model
  - Funded from USEPA
  - Methods for review developed
  - Completion estimated toward end of 2015

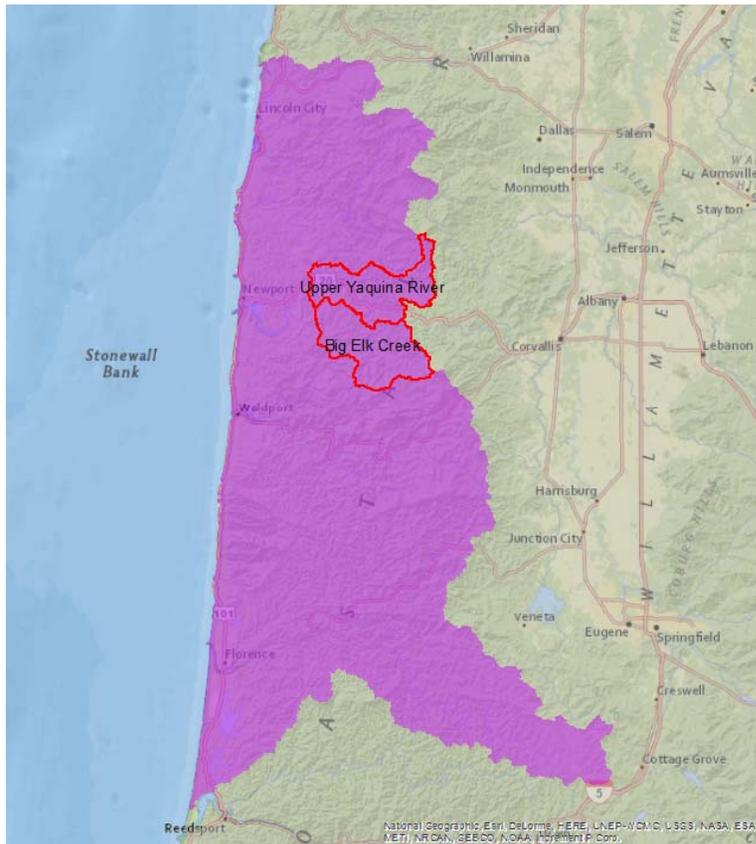
# Watershed Modeling: Big Elk Creek



## Watershed Modeling: Big Elk Creek (continued)

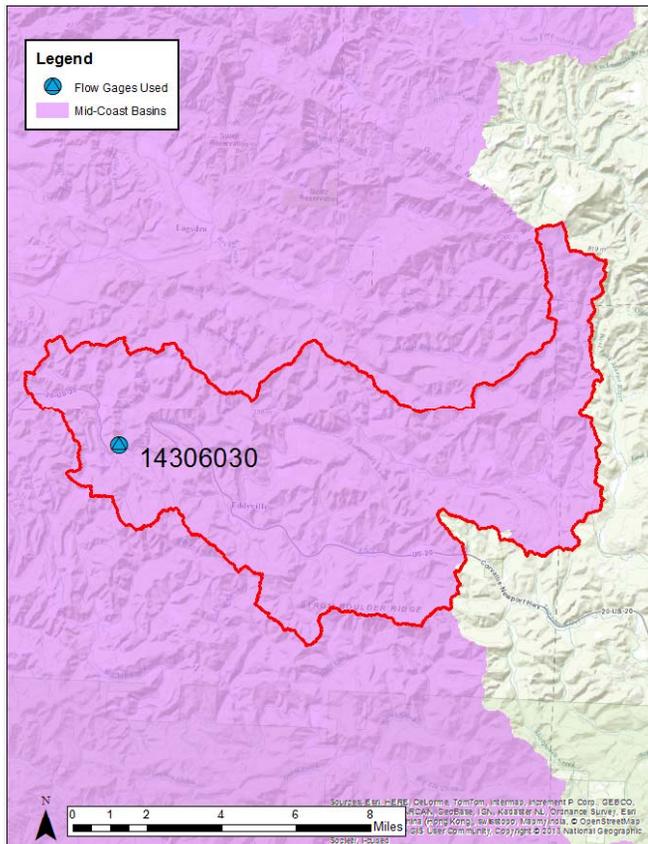
- Current ODEQ work
  - Conduct hydrologic parameter estimation/uncertainty analysis for new simulation period
  - Setup bacteria model for new simulation period
  - Continue to incorporate TWG feedback into bacteria sub-model input
- Begin writing report document

# Watershed Modeling: Upper Yaquina River



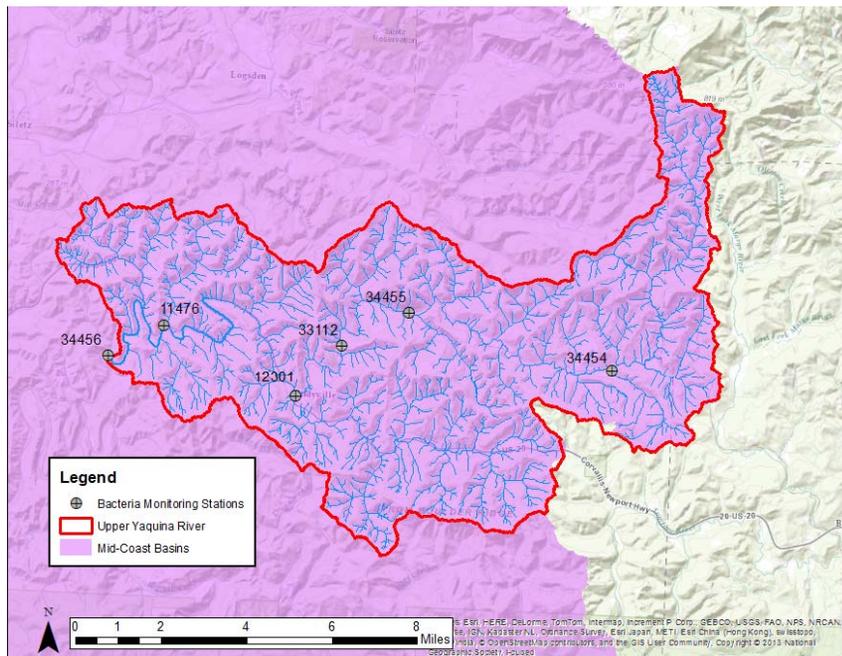
- Develop watershed model like Big Elk Creek
- Support implementation
- Begin model development for Yaquina River
- Contractor began work June-2015

# Watershed Modeling: Upper Yaquina River



- Utilize information from Big Elk Creek modeling
  - WDM file
  - Hydro parameters
  - Bacteria input
  - ...

# Watershed Modeling: Upper Yaquina River



- Utilize information from Big Elk Creek modeling
  - WDM file
  - Hydro parameters
  - Bacteria input
  - Model review
  - ...
- Completion estimated toward end of 2015

## Next Steps

- Beaches
  - Complete summaries (documents) for beach results
  - Develop WLAs and LAs
  - Identify DMAs
- LDC TMDLs
  - Continue development of TMDLs by watershed
  - Work with DMAs on WQMP and implementation plans

## Next Steps (Continued)

- Watershed Modeling
  - Big Elk Creek
    - Complete model review
    - Load allocations
    - Uncertainty analysis
  - Upper Yaquina River model
    - Complete model setup
    - Start hydrologic parameter estimation

# Discussion

