PUBLIC TESTIMONY SUBMITTED FOR JULY 9, 2024 SPPDAC MEETING

(as of 8:20 AM on 07/09/2024)

From: City of Rockaway Beach <[redacted]>
Sent: Monday, July 8, 2024 3:26 PM
To: Melissa Thompson
Subject: New message from SPDAC Comment Form

Nancy Webster
[redacted]

Submitted for July 9th SPPDAC meeting
Comments on forester comments.

PESTICIDES - Statement - “Chemicals are safe and do not travel” - Imazapyr, sulfometuron methyl and metsulfuron methyl labels all state that these chemicals move readily through soils. Other words used to describe lab results are “highly leachable” and “high mobility”. Some other characteristics of concern include moderate negative effects on honeybees, earthworms and birds and a tendency to bioaccumulate. Imazapyr is not approved for use in Europe. 2,4-D is commonly used in roadside sprays and, although not highly leachable, it is moderately toxic to honeybees, earthworms, birds and aquatic animals and can persist in aquatic environments.

“Pesticides and fertilizers are not typically used in the coastal forests” - The private industry and ODF all use pesticides. On roadsides every year or two. On clearcuts once or twice after a cut.

NCCWP took on a project when a landowner called for help when Stimson notified them that there would be aerial spraying occurring. Stimson agreed to hand spray instead with minimum 150 foot buffers. NCCWP took baseline samples in August which tested negative for any of the chemicals to be sprayed. Spraying occurred in September. We tested again in October during a light rain event of 1 to 2 inches and all samples tested negative. We tested again in November during a heavy rain event after 5 inches had fallen. One surface water source tested positive for Imazapyr (.57 ppb), metsulfuron methyl (.026 ppb) and sulfometuron methyl (.057 ppb).

Unfortunately the US does not require mixes of pesticides to be tested for synergistic effects. We are dealing with the unknown when we combine and spray such things as Imazypir, metsulfuron methyl, sulfometuron methyl and 2,4D. Furthermore, testing is only done on the active ingredient in pesticides and recent studies are showing that some ingredients termed “inactive” can be much more toxic than the active chemical.

AGES OF PLANTINGS - “Currently, the youngest stand has 6 year old trees…” - The Olympic Line clearcut occurred in late 2020 to early 2021, therefore the youngest planting would be about a year or two old unless it has not been replanted yet.

SEDIMENT DELIVERY - NCCWP has been sampling Jetty Creek for turbidity since 2021. Turbidity levels predictably exceed 5 NTU every time a rain event of 2 or more inches occurs within a 24 hour period. Readings in the 30s are not uncommon and a reading of over 55 occurred in December of 2022.

WATER QUANTITY - Recent studies indicate that mature forests deliver a more dependable flow in

streams year round. Clearcut lands results in lower summer flows. Recent example - August 8th 2022 observation - Miami River at gauging station just above tidal influence was 9 cubic feet per second. Watershed size 35 square miles. Watershed almost entirely Tillamook State Forest.
Three Rivers output on same day was 45 cfs (both figures provided by the District 1 water master). Three Rivers watershed is similarly located from the ocean in the southern end of Tillamook County and comprises 37 square miles. Three Rivers watershed is almost entirely Siuslaw National Forest (almost entirely mature forest with mixed understory).

PFAS - The wells should be tested for this family of forever chemicals. Since there are many septic systems in the area of the wells it would not be surprising to find some of these present. PFAS and PFOS can travel from clothing and textiles via washing machines to septic drain fields.

NOT BIOLOGICALLY SIGNIFICANT - What does this mean?

Thank you,
Richard Felley and Nancy Webster, North Coast Communities for Watershed Protection [redacted]

From: City of Rockaway Beach <[redacted]>
Sent: Monday, July 8, 2024 3:36 PM
To: Melissa Thompson
Subject: New message from SPDAC Comment Form

Nancy Laga Lanyon
[redacted]

As I am unable to attend the July 9 2024 SPPDAC Meeting, I respectfully submit this input regarding the Source and Ground Water Tables (5x5s, pages below #/22):

- 8/22 Landslides: smart to evaluate certain areas more closely - under what parameters? Stream surrounds will be critical to Jetty Creek (JC) forest health, reclamation. Which water systems infrastructure were impacted by landslides? How fixed (to incorporate in Plan)?
- 9/22 Drought: sufficient shading critical for water protection, alder trees are exemplary to accomplish that. Advocate rain water storage (located above tsunami zone) be pursued.
- 10/22 Severe Storms: As above, rain water storage above risk areas, gravity-driven if possible (electrical outage, etc. minimized).
- 11/22 Wildfires: May RB join a no-PFA use in firefighting list? Roads may act as buffer, but there are too many in JC (for its recovery) so determine useful roads in advance.
- 12/22 Clear cut: JC is clear cut so prohibit future clear cutting for its recovery - and which still impacts the whole forest ecology. Consider all chemicals as detrimental and unnecessary; timber industry doesn't analyze for chemical combinations which exacerbate harm to all habitat (extensive data on this.) Legal to prohibit road use from entities outside JC? Again, need road removal also.
- 13/22 Harvest: Identifying fish/non-fish water is moot - that was not identified prior to harvests (started 60+ years ago). Industry analyses also usually evaluate populations at wrong time of year (again, much data).
- 14/22 Recreation: strongly believe areas of JC should allow hike/bike access - please use Clatsop Co. Park Klootchy Creek (permitted by GreenWood/Nuveen) as an excellent stewardship example.
- 15/22 Truly question (industry-hired) soil analyses (chemicals); as stands are just 6-22 years old, are each identified (to perhaps contribute to closer evaluation parameters)?
- 16/22 Spraying: Doubt compliance of the 10'-50' buffer - there are culverts below roads everywhere which feed to audible streams and creeks. Riparian buffers are documented to have not been complied with in the past.

Groundwater:
- 19/22 Septic should be prohibited in all wetland and tsunami zones.
- 21/22 RB should consider adopting own spray-distance buffer zone distances from any water source.

Thank you for your consideration - Nancy Lanyon

[redacted]

From: nancy webster <[redacted]>
Sent: Sunday, July 7, 2024 9:58 PM
To: ron clemen <[redacted]>; Jay Udelhoven <[redacted]>; [redacted] Jason Maxfield <[redacted]>; lydia hess <[redacted]>; City Hall <cityhall@corb.us>
Cc: Alesia Franken <[redacted]>; charlesmcneilly[redacted]; nancy webster <[redacted]>
Subject: Comments submitted for July 9th SPPDAC meeting

What are the obstacles and opportunities for Jetty Creek to become a dedicated source for abundant, clean drinking water for Rockaway Beach?

In the last 20 years, what testing has been done of the Rockaway Beach surface and ground drinking-water sources?

1. What are the stream flow measurements of Jetty Creek? Have there been changes in water quantity over the years? 2. What are the turbidity measurements of the water from Jetty Creek before treatment and how has that fluctuated? 3. How many days per year does RB use the wells? How many days per year does RB mix the well water and the surface water from Jetty Creek? What is the annual quantity of well water used compared to the quantity from Jetty Creek? How does that vary seasonally? 4. How many days is the Manhattan Beach well used? Does the water from it still *not* go through the treatment plant?

2. The 2016 Update Rockaway Source Water Assessment maps the entire Nedonna Beach neighborhood as part of the Rockaway Beach Water District drinking water source area (groundwater and wells). The Nedonna Beach neighborhood is listed as "high density housing" and has approximately 370 houses. Of these houses, approximately 25 percent are on City sewer and since the other 75 percent are not in the City, they use septic systems. All of the houses are on City water. How would more development in the Nedonna Beach neighborhood impact the source water protection area, since two of the three wells are below it? What happens if the City sewer pipes leak into the groundwater source protection area? What happens when the drinking water pipelines in Nedonna Beach leak The Nedonna Beach neighborhood is adjacent to the south jetty of the Nehalem River; and, therefore, groundwater may be susceptible to daily tidal changes.

3. What are the current well water testing protocols? What would be *best* practices in regards to testing our well water?

4.. Jetty Creek is listed as wild coho salmon, steelhead, trout, and Pacific lamprey habitat. A certain amount of the stream flow is set aside for these fish. What is that amount that is set aside for the fish, and how are we going to ensure that the fish have adequate water? Please see the attachment JettyCreek HS-1 for ODFW fish mapping

Comments regarding the 7-2-24 SPPDAC Packet (Comments in red are from the packet; those in black are my responses.)

1.Pesticides and fertilizers are not typically used in the coastal forests. Pesticides are sprayed annually over large areas in both private and State forests near the Coast. Regarding the last 13 years in the Jetty Creek watershed, North Coast Communities for Watershed Protection has incomplete pesticide spraying and logging records. Does the City of Rockaway Beach, DEQ, or the Oregon Department of Forestry maintain complete records of pesticide spraying (and the specific chemicals used) by the timber companies that own the Jetty Creek watershed?

Pesticide use in the lower part of the Jetty Creek watershed has only been restricted for approximately the last four years, since the original version of the MOU (memorandum of understanding) agreement with Nuveen (the owner of the lower part of the JC watershed) was signed. There still was road spraying in the entire watershed. The Jetty Creek watershed has steep slopes that have been approximately 90 percent clearcut over the past twenty years. During that time, it has been sprayed with pesticides many times. This includes extensive applications of rotencides to kill the mountain beaver (Aplodontia rufa), a small rodent. Please see the attachment for a list of chemicals.

1. 2. Jetty Creek would have been 100% harvested and likely broadcast burned in the 1950s-60s with no riparian buffers. It is possible that more of the old growth was harvested at an earlier interval. 2010's to present harvest began again under FPA rules and significantly better techniques and technologies. According to neighbors, the Jetty Creek watershed was extensively logged in the 1970s. **In the last twenty years, that watershed has been a model of what should *not* happen in a drinking water source. (See the attachment for a watershed modeling project.) We need to have an independent forest expert evaluate the current health of the watershed in regards to drinking water, and to say what is needed to safeguard and restore it to ensure that there will be drinking water in the future..**

   3. In the eight years since the 2016 report, what percent of this watershed has been logged and sprayed with pesticides?

   4. On July 29, 2023, in The Oregonian, it was stated that "Scientists have long warned that climate change, driven by the burning of fossil fuels, by deforestation, and by certain agricultural practices will lead to more and prolonged bouts of extreme weather."

   5. A 2015 landslide closed a road, and several small landslides have been observed. There are many steep slopes in the watershed. Numerous small landslides have been observed throughout the watershed in the last ten years, including three slides in 2015 close to the treatment plant water intake. Please see Eco Trust attachment.

   6. Increasing temperatures and droughts anticipated from climate change could increase the risk of wildfires. There is more research linking young conifer plantations with higher fire risk and hotter fires. In the last twenty years, there has been extensive clearcutting (similar to Jetty Creek) in privately-owned forests in Tillamook and Clatsop Counties. After clearcutting, this land is replanted with single species conifers, in other words as a tree farm or plantation.

   https://globalnews.ca/news/10598221/glyphosate-ban-bc-deciduous-forests/

Final question: Who is on the Sourcewater Protection Team? What is their affiliation and expertise? Are the meetings of this Team public?

Thanks,

Nancy Webster, representing North Coast Communities for Watershed Protection

[redacted]

Landowner
Stimson Lumber

Chemicals	Chemical Additives	Chemical Carriers
2,4-D with choline	Crosshair	Forest Crop Oil
2,4-D with ester	Hasten	Water
aminopyralid	Induce	
clopyralid	MSO-100	
glyphosate	MSO Premium	
hexazinone	MSO Concentrate with Leci-Tech	
imazapyr	MSO Concentrate	
metsulfuron methyl	Super Spread MSO	
triclopyr with amine	Syl-Coat (silicone surfactant)	
triclopyr with ester	Syl-Tac	
triclopyr with choline		
sulfometuron methyl		
sulfometuron methyl and metsulfuron methyl		
Open-sight		
Milestone		

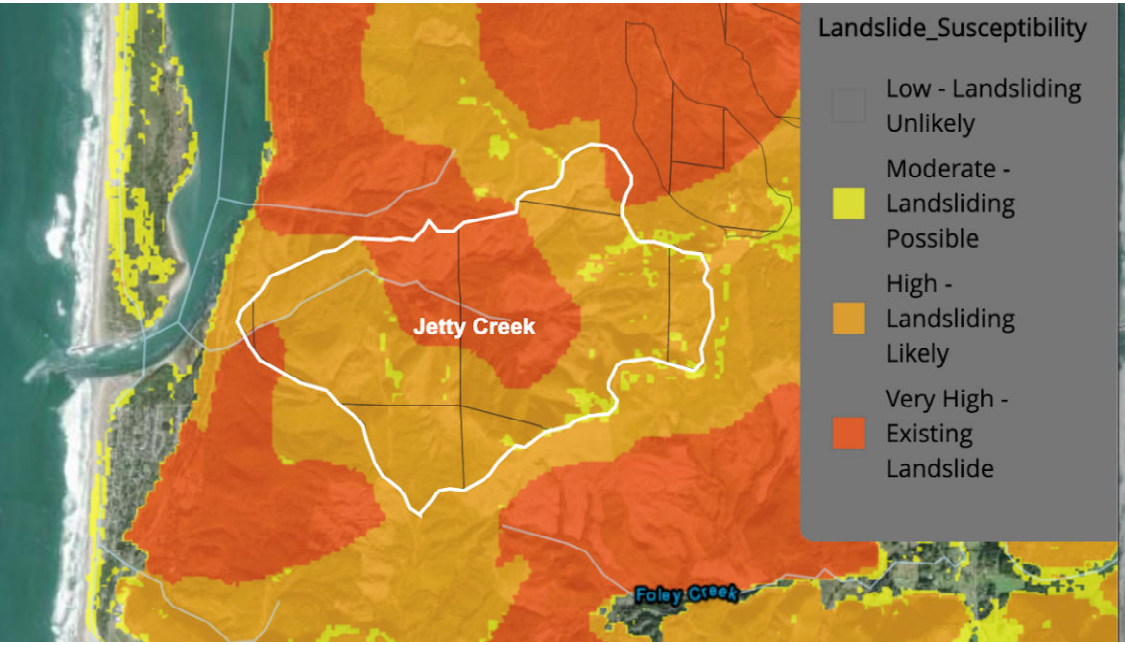
Methods-Ground - Pressurized/Broadcast, Manual Spot Application
Color Indicates Method also Aerial

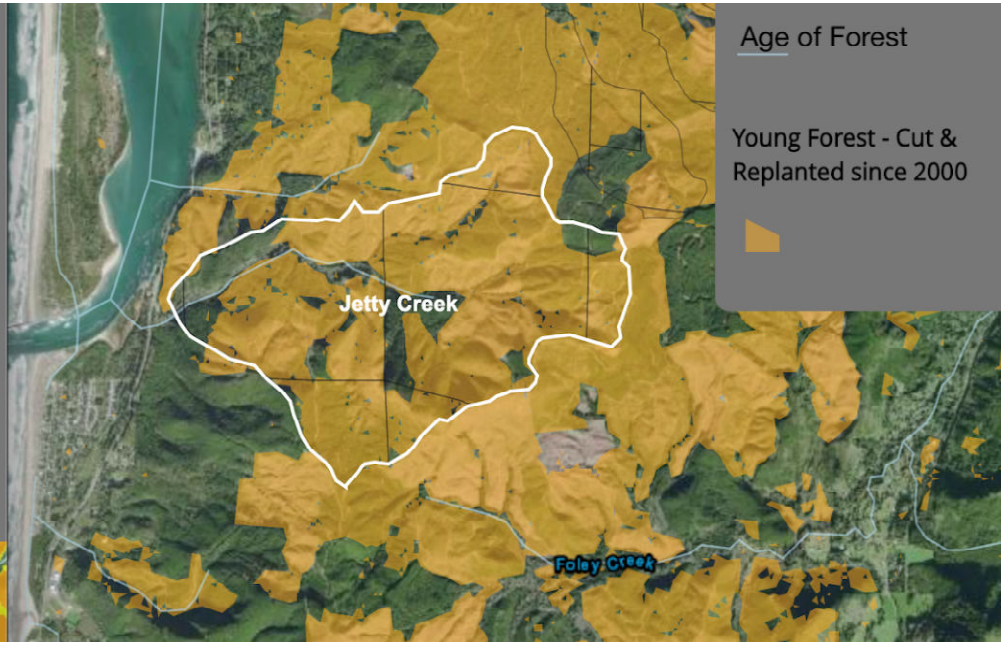
Landowner
Mid Valley Resources

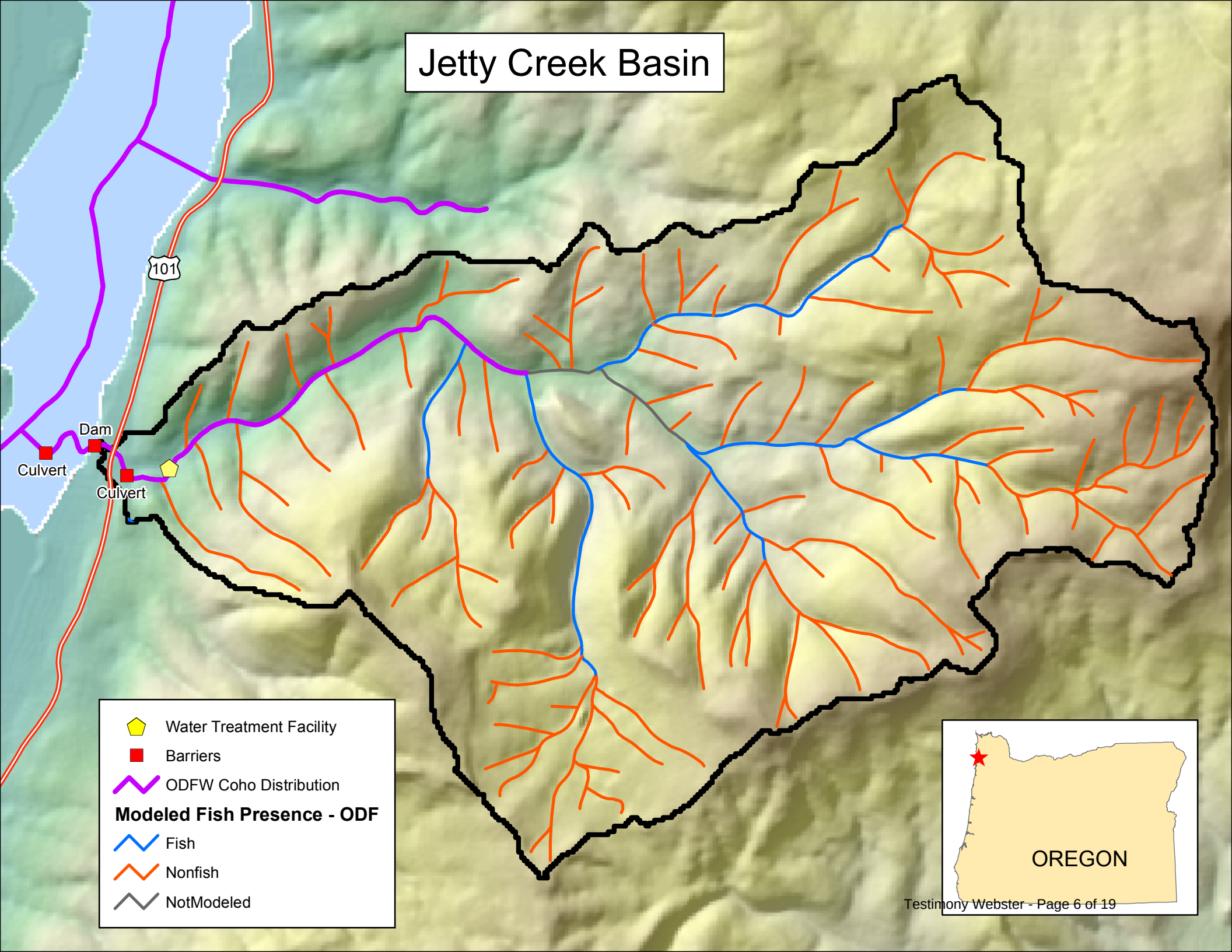
Chemicals	Chemical Additives	Chemical Carriers
clopyralid	MSO-100	Water
glyphosate	No Foam	
imazapyr	Spray Indicator	
metsulfuron methyl	Super Spread MSO	
sulfometuron methyl	Syl-Coat (silicone surfactant)	
triclopyr with acid	Syl-Tac	
triclopyr with amine	Sylgard 309	
triclopyr with choline		
triclopyr with ester		

Landowner
Hampton Resources

Chemicals	Chemical Additives	Chemical Carriers
clopyralid	MSO-100	Water
glyphosate	No Foam	W.E.B. Oil
imazapyr	Spray Indicator	
metsulfuron methyl	Super Spread MSO	
sulfometuron methyl	Syl-Coat (silicone surfactant)	
triclopyr with acid	Syl-Tac	
triclopyr with amine	Sylgard 309	
triclopyr with choline		
triclopyr with ester		


Landslide_Susceptibility
Low - Landsliding Unlikely
Moderate - Landsliding Possible
High - Landsliding Likely
Very High - Existing Landslide
Jetty Creek
Foley Creek


Age of Forest
Young Forest - Cut & Replanted since 2000
Jetty Creek
Foley Creek


Jetty Creek Basin
101
Dam
Culvert
Culvert
Water Treatment Facility
Barriers
ODFW Coho Distribution
Modeled Fish Presence - ODF
Fish
Nonfish
NotModeled
OREGON

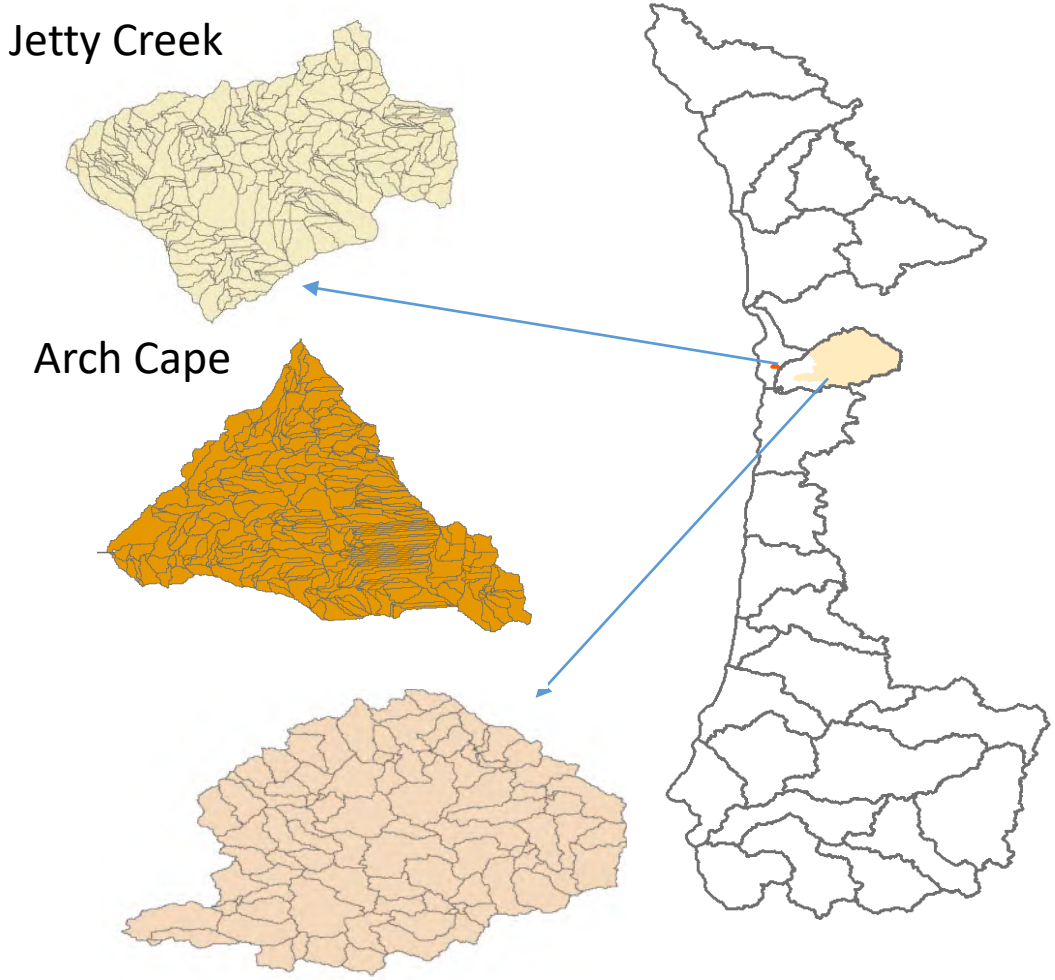
Hydrological Impact Assessment-Oregon Coast Pilot Projects

Shreejita Basu, PhD
Forest and Water Fellow

Sustainable Northwest

Drinking watersheds on the Oregon Coast

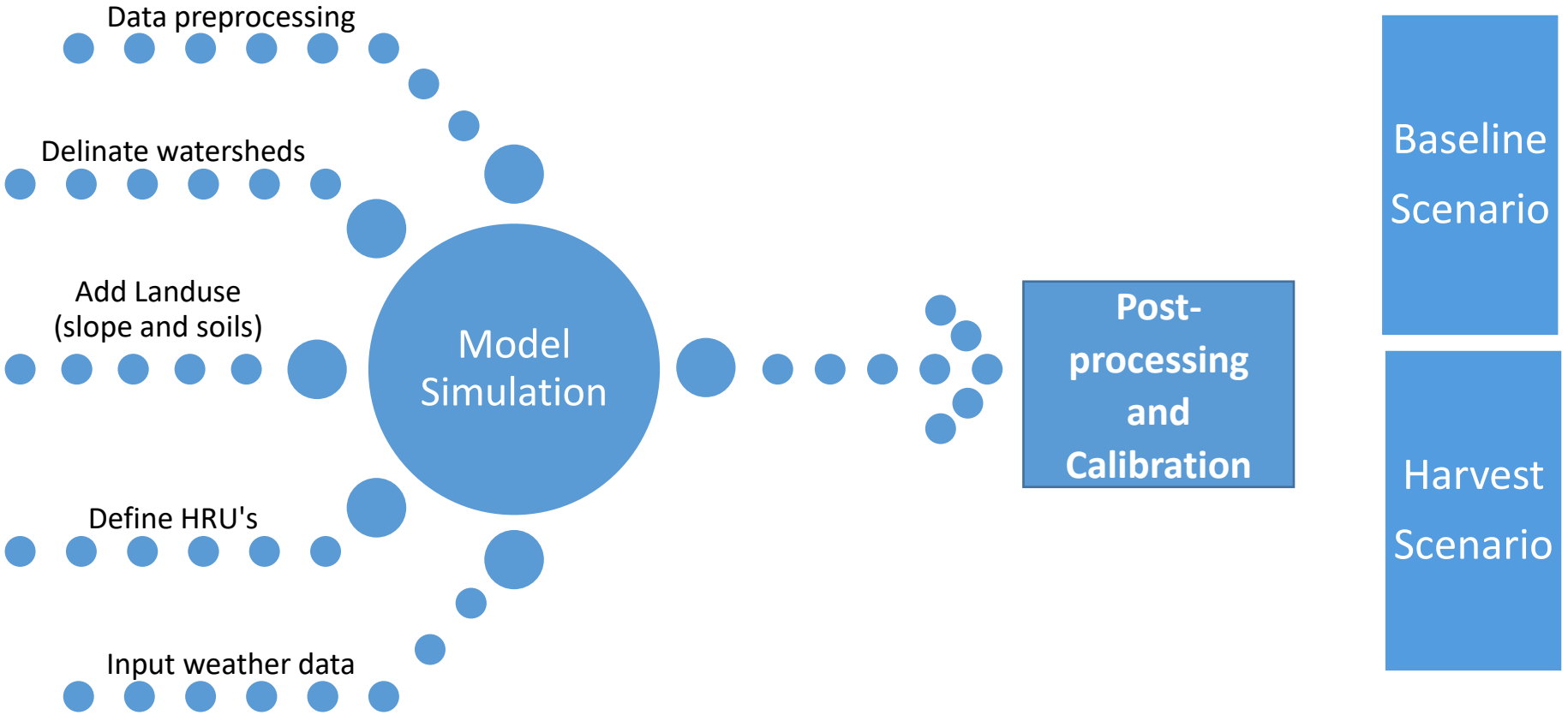
Two watersheds fall under the same ecoregion



USGS Gauge at Foss Nehalem

Oregon Coast

Methodology for Soil Water Assessment Tool



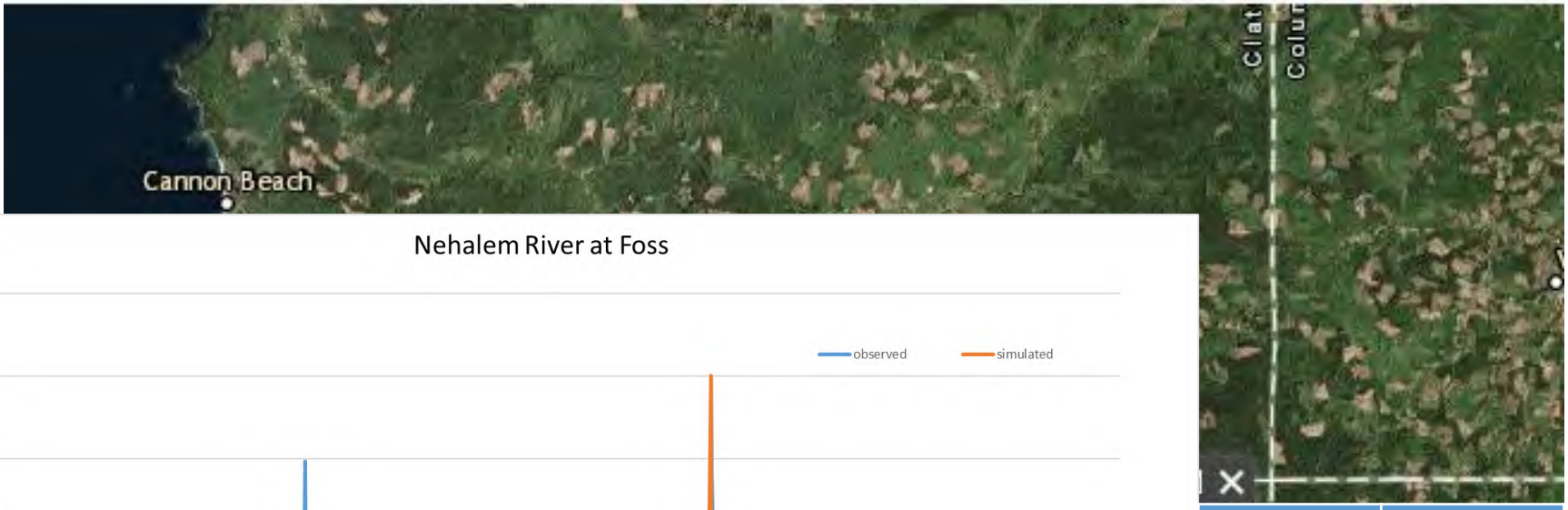
Input Data Sources

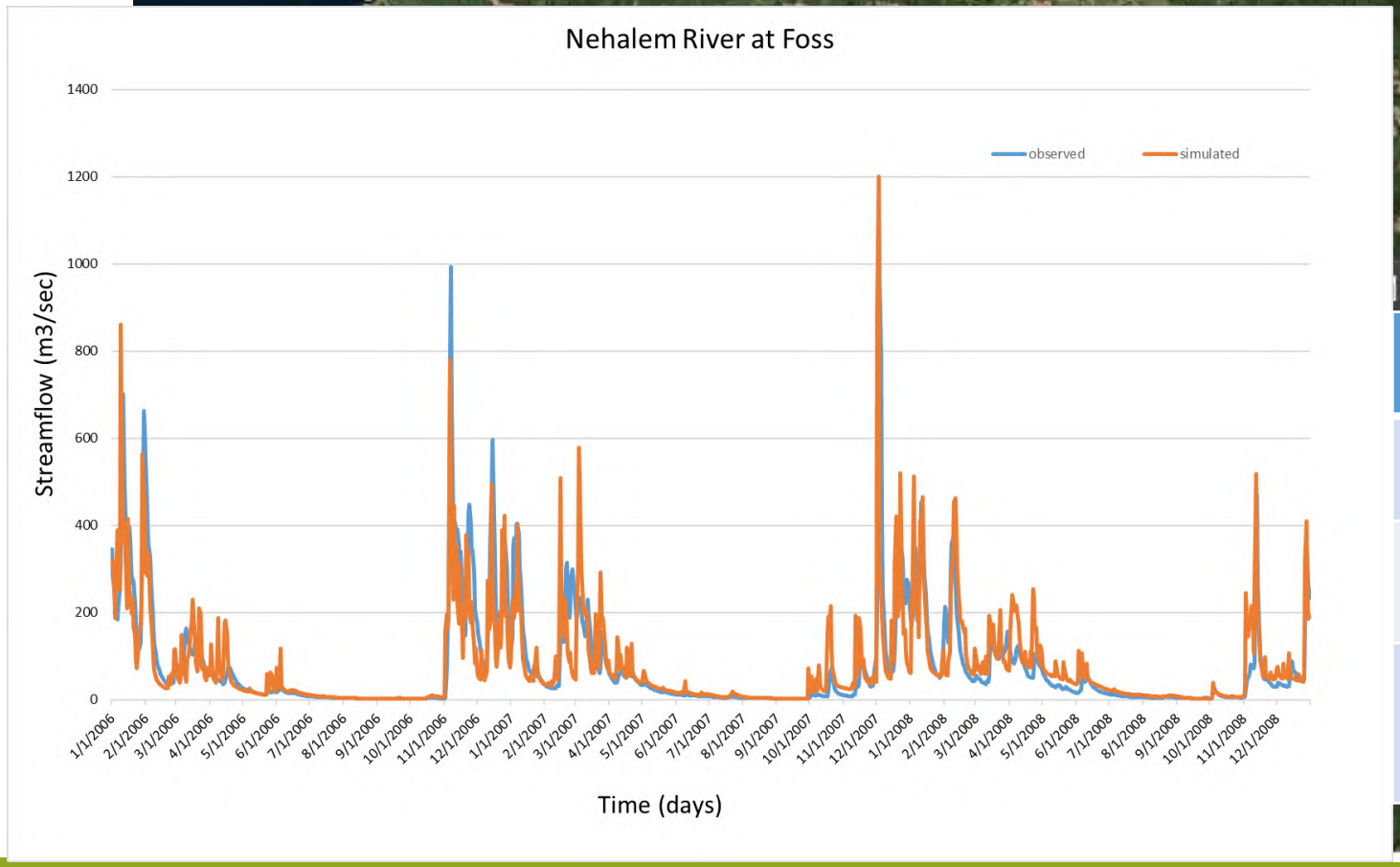
1. Topography: DEM 3 m resolution USGS National Elevation Dataset
2. Land Cover: National Land Cover Database (2006 and 2011)
3. Soil Grid: SWAT STATSGO Database
4. Hydrometeorology : National Center for Atmospheric Research (NCAR): Climate Forecast System Reanalysis (CFSR)

   Daily rainfall, solar radiation, air temperature, air humidity and wind speed

5. Parameterization using regionalization from Nehalem SWAT Model (Public): Daily streamflow data from USGS Gauge Station at Foss, Nehalem

Calibration

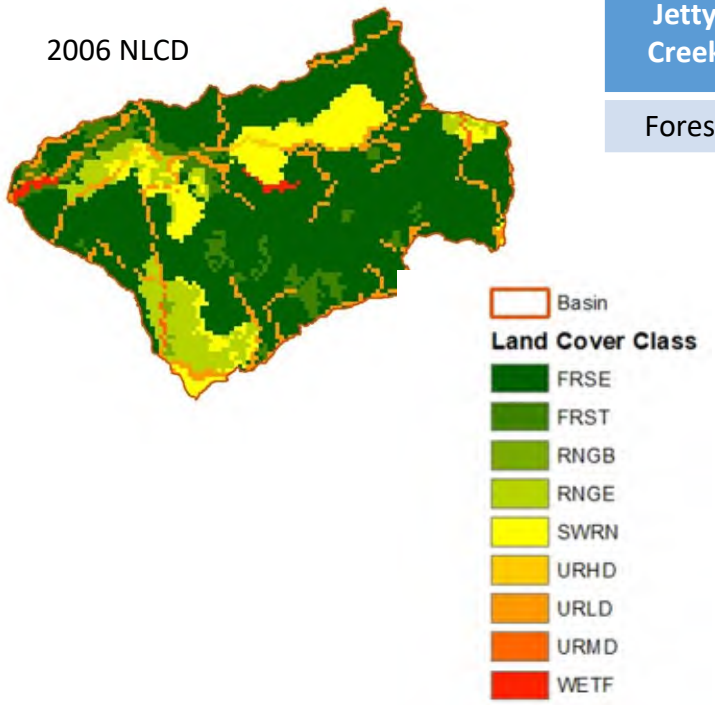




Variable	Fitting Values
R^2	0.65
NS	0.64
KGE	0.78

Land Cover Changes

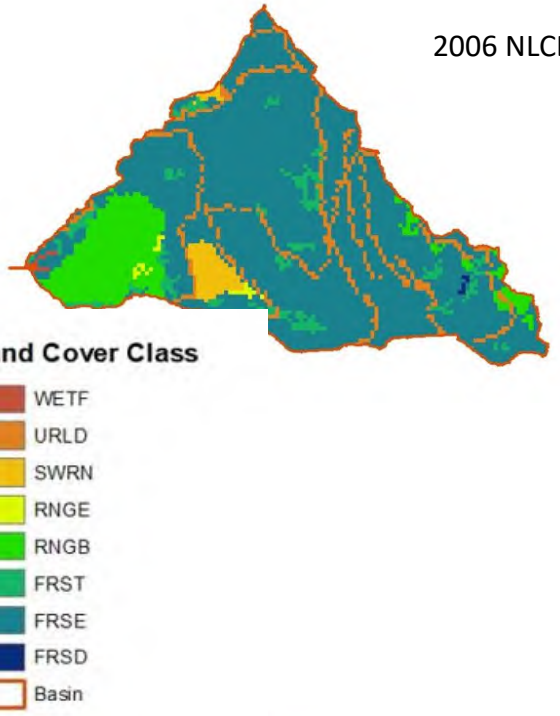
2006 NLCD



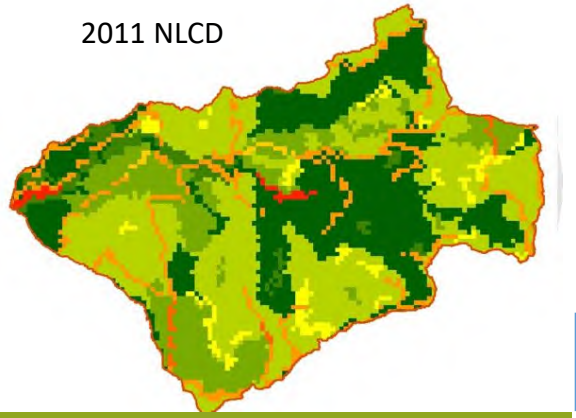
Jetty Creek	2006 (acres)	2011 (acres)	% Change
Forest	931	428	↓54

Land Cover Class	Type
FRSE	Forest Evergreen
FRST	Forest mixed
RNGB	Range Brush
RNGE	Range Grasses
SWRN	Arid Range
URHD	Residential High Density
URLD	Residential Low Density
URMD	Residential Mixed Density
WETF	Forested Wetlands

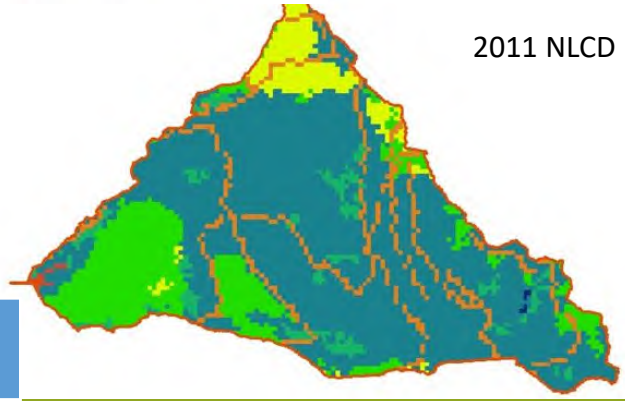
2006 NLCD



2011 NLCD

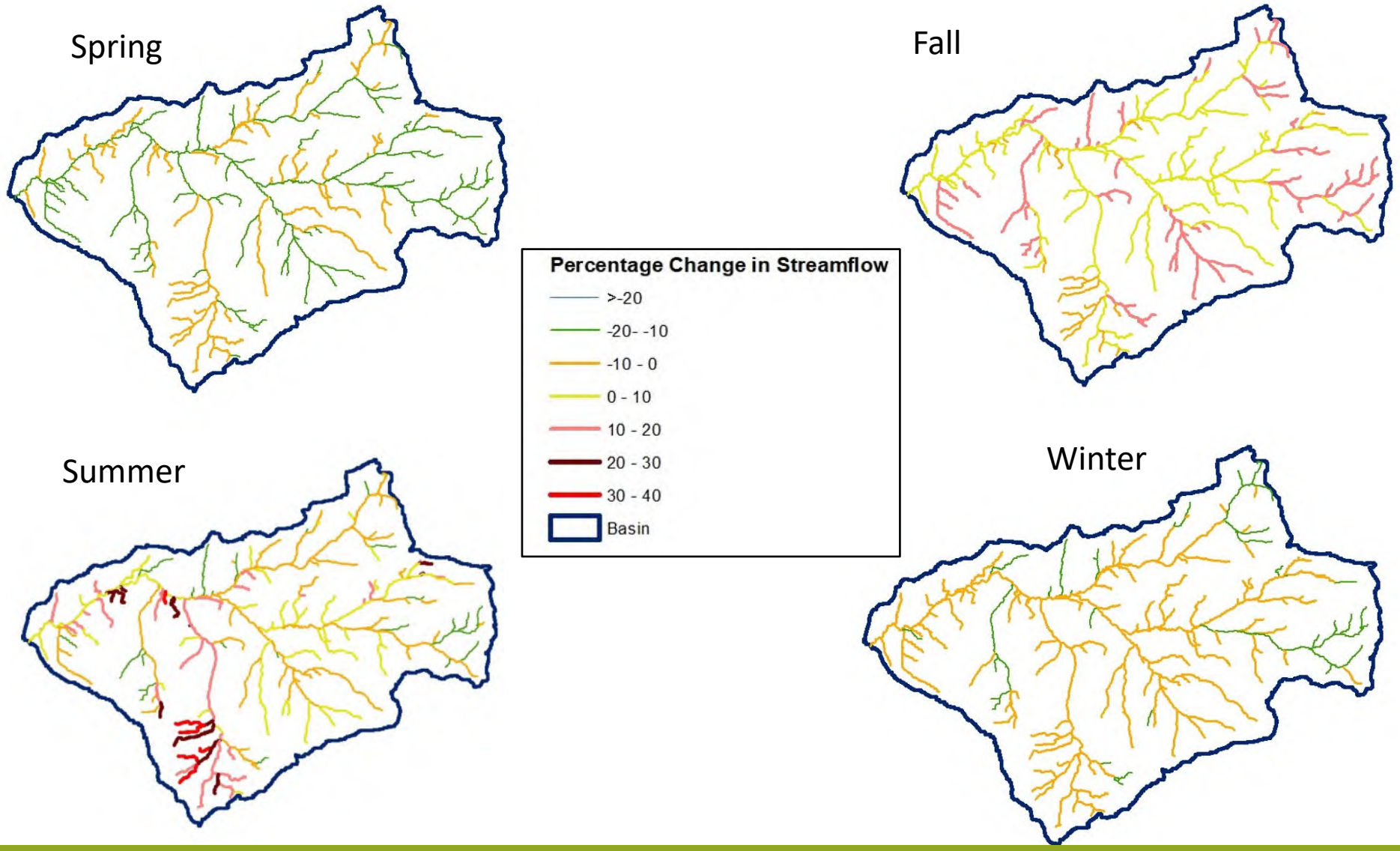


2011 NLCD

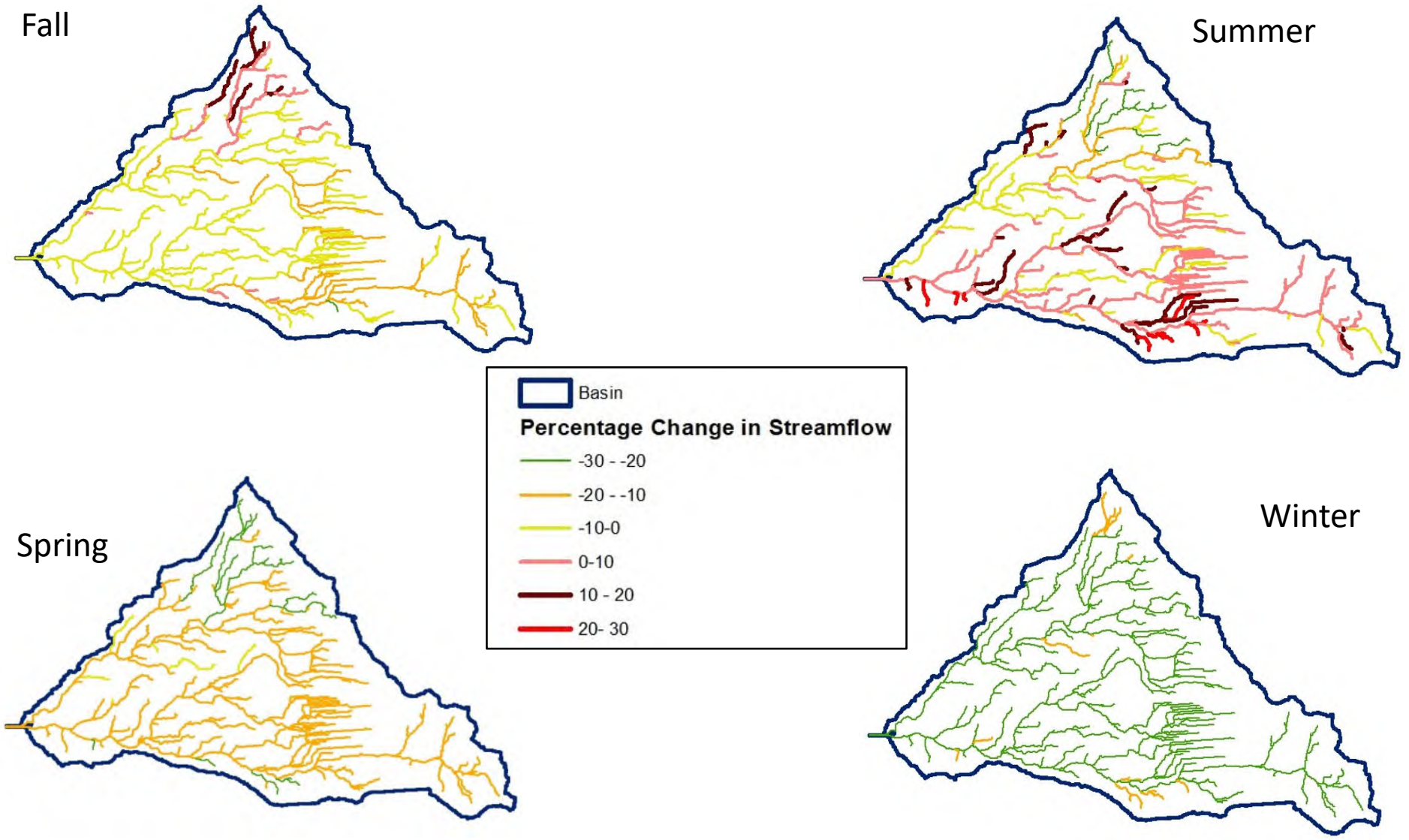


Arch Cape	2006 (acres)	2011 (acres)	% Change
Forest	930	830	↓10

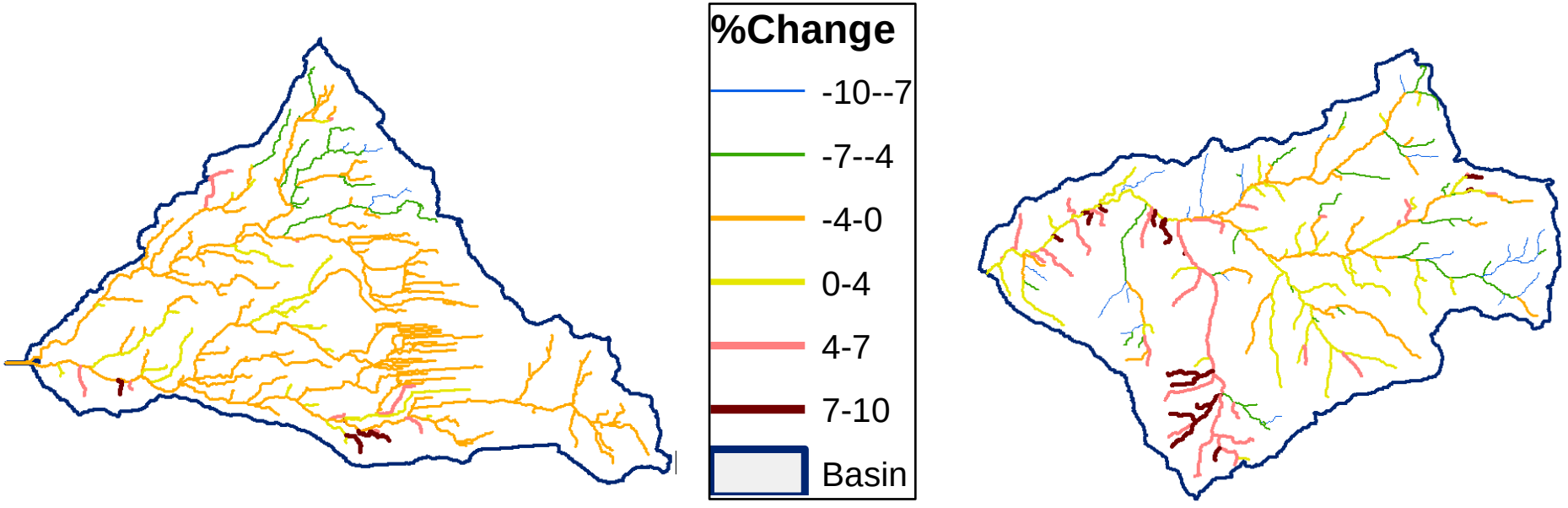
Seasonal Changes in Streamflow for Jetty Creek



Seasonal Changes in Streamflow for Arch Cape Watershed



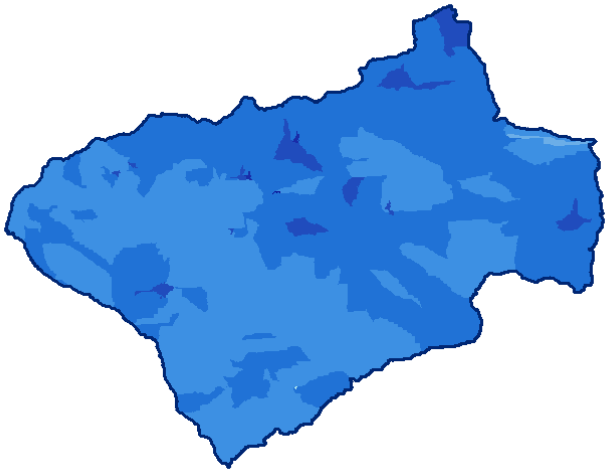
Annual Changes in Streamflow



Overall the streamflow decreases upto 10% in some of the reaches of Jetty Creek and 4% for Arch Cape. During summer the base flow (groundwater recharge) contributes to the streamflow without rainfall.

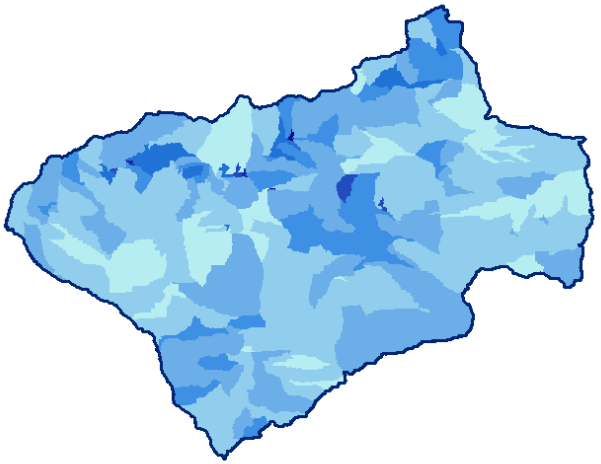
Comparison of Water Yield in Baseline and Harvest Scenarios

Baseline

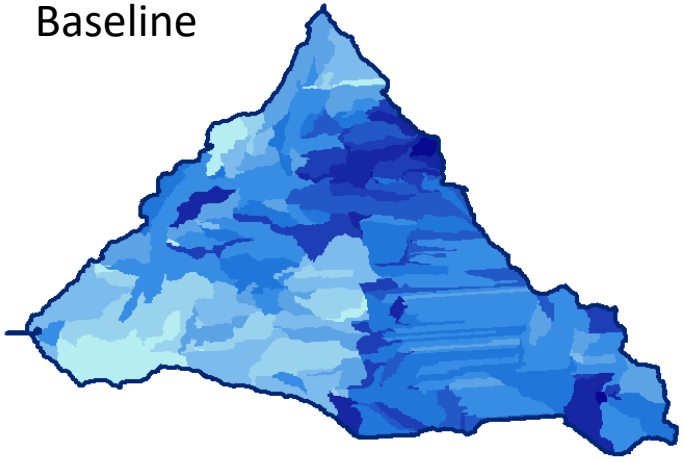


Basin
Watershed Water Yield (mm/yr)
<1260
1260 - 1280
1280 - 1300
1300 - 1320
1320 - 1340
1340 - 1360
1360 - 1380
1380 - 1410

Harvest

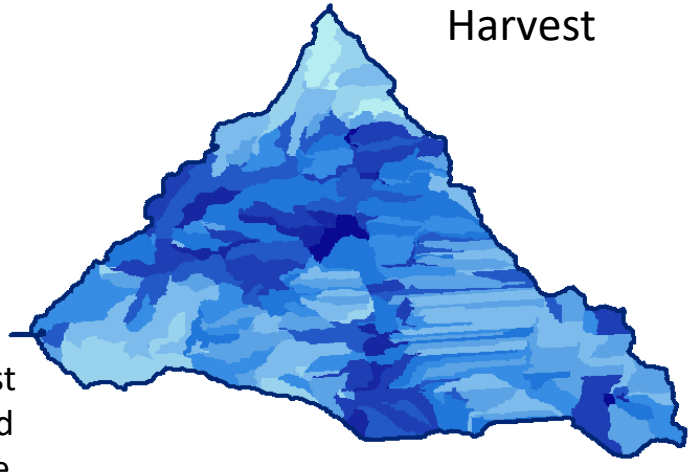


Baseline



Basin
Watershed Water Yield (mm/yr)
<1260
1260 - 1280
1280- 1300
1300 - 1320
1320 - 1340
1340- 1360
1360 - 1380
1380 - 1400
1400 - 1420
1420 - 1440

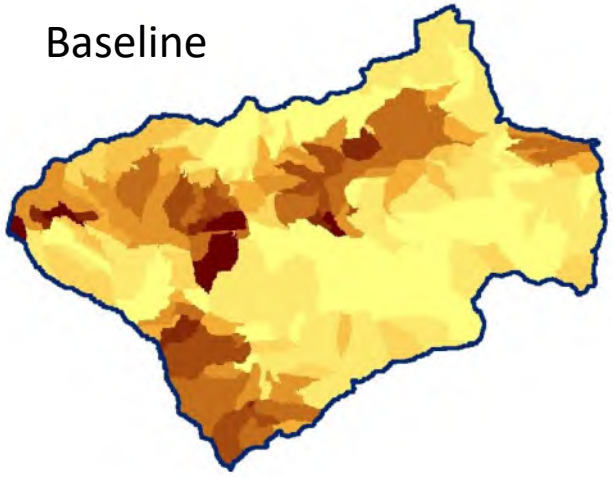
Harvest



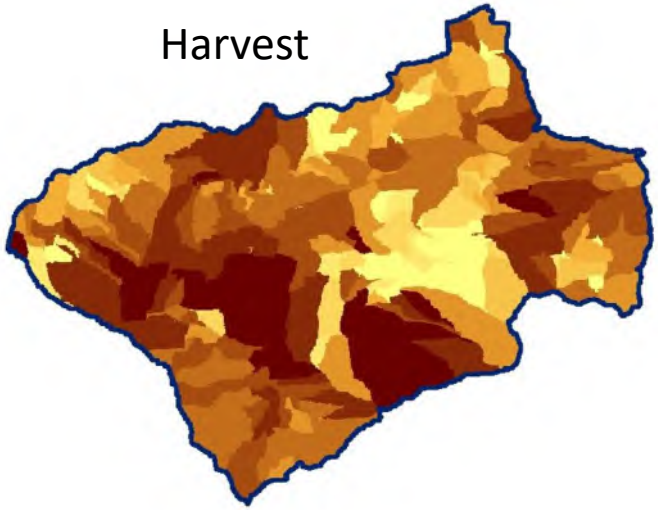
Lower water yield post harvest 100 mm/yr for Jetty Creek and about 30mm/yr for Arch Cape

Comparison of Sediment Yield in Baseline and Harvest Scenarios

Baseline



Harvest



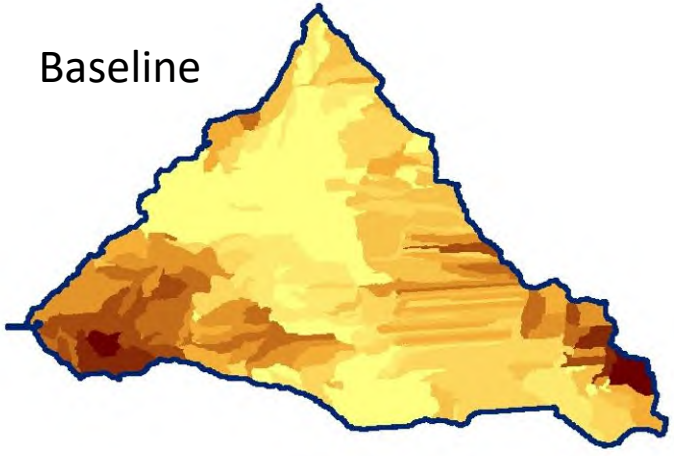
Risk assessment from run-off Warmer colors mean high sediment yield from catchments

Basin

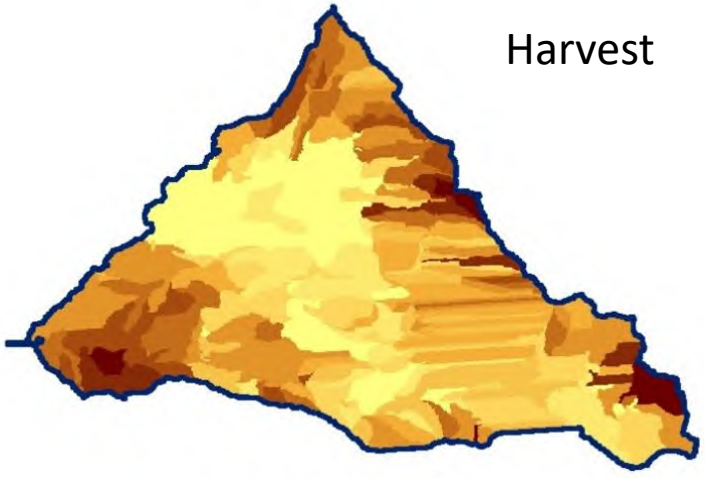
Sediment Yield Potential

- 0- 0.1
- 0.1-0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

Baseline



Harvest



Conclusions

- Useful for small and large scale watersheds and catchments
- Current watershed conditions can be modeled using remotely sensed LANDSAT data to see the hydrological shifts over a long period of time
- Land cover and land management can be modified in the model to predict future scenarios
- Results help to identify spatial hotspots for best forest management practices

Looking Forward

1. Apply the Soil and Water Assessment Tool (SWAT) to understand hydrological changes for pilot projects on the Oregon Coast;
2. Determine spatial hotspots for watershed restoration;
3. Take lessons forward for other coastal watersheds.