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Department
of Agriculture

Oregon Department of Agriculture's Landscape Monitoring Project:

A Fifteen Year Record of Riparian Change

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By Paul Measeles, Hydrologist
and Diana L. Walker, GIS

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1.0 Introduction

This report presents the results of the Oregon Department of Agriculture's (ODA) landscape monitoring project. This project was begun in 2003 and continued through 2017. The objective of this project was to provide visual data for establishing trends in riparian landscape condition.

The project's goals were to:

1) Demonstrate an efficient way to acquire orthorectified aerial photographs;
2) Develop a practical way to analyze riparian conditions using aerial photographs, and;
3) Initiate a monitoring program that could determine statewide riparian trends and conditions in agricultural lands over a five-year cycle.

Use of remotely-sensed imagery allowed us to assess the condition of large areas without requiring as much labor as with a ground-based effort. In addition, using GIS-compatible imagery allowed for direct comparison of the same locations to identify long-term trends. A total of 230 streams were photographed, though not all of these were shot more than one time. These 230 streams totaled more than 500 miles in combined length.

This was designed as a passive monitoring project, where the exact location of the areas photographed was not widely reported outside the agency. ODA did not want to encourage any particular management activity within the areas being monitored. Instead, we used the monitored sites to see how riparian conditions might change without direct (known) contact with landowners.

This report documents our approach to selecting areas to be photographed, the methods used to obtain the photographs, analysis of the imagery, the results of our analysis, and a discussion of how this project could be continued on a limited basis in the future.

1.1 Project History and Development

ODA initially began experimenting with the use of aerial photography to assess compliance with basin rules in 1998. These initial attempts involved the use of photographs that were not georeferenced or orthorectified, so they were not scaled and they couldn't be combined (readily) with other imagery in a GIS format. However, we recognized the potential for using this imagery for assessing riparian conditions, because these areas were relatively easy to identify and interpret. We then worked with a contractor – then known as Embedded Systems Research (ESR) – to develop an affordable method to obtain georeferenced and orthorectified air photos. After some test

runs using the Santiam Canal as an example 'stream,' Embedded Systems Research successfully developed aerial photography that could be flown in a single-engine aircraft with a computer serving as the 'copilot.' This made for an unobtrusive method for shooting aerial photos, because the aircraft in use was a common variety seen daily in the skies. Air photos could be shot and processed in flight, so the pilot could land and hand over a DVD with the photos ready for use. A few years after initial development, ESR added near-infrared photography to the standard true color, so we were able to have both shot simultaneously.

ODA did its first official aerial photography for this landscape monitoring project in 2003. We planned to shoot streams in agricultural lands throughout the state, covering all the planning basins in five years and then re-shooting the same areas to look at changes over the five-year period. The project continued without interruption through 2008, with that year featuring the first replication of the 2003 photography. However, in 2009, funding for the project was withdrawn, so only a small portion of the basins photographed in 2004 were re-shot in 2009. Funding was restored in 2010 and aerial photography continued yearly without interruption into 2017. Some streams were dropped after the initial photography for a variety of reasons, the most common being not having enough land in agricultural development visible on the photos. In the lower Willamette basin, one stream was dropped due to encroaching urbanization. Initial photographs of some streams covered five or more miles of length, and we found that these distances produced air photos that were so large they were slow to load and analyze in GIS. Consequently, some streams that were kept were reduced in length of coverage.

2.0 Methods

2.1 Site Selection

Riparian areas within agricultural land to be photographed were identified using our in-house GIS land-use database. Approximately 10% of these stream reaches (by length) were then selected using a randomized method. This method involved using a GIS database of all named streams in a basin, calculating their length in agricultural lands, and choosing reaches within this set using a random number generator. Considering past ODA monitoring projects using aerial photography, limitations on stream length/drainage area and stream "type" were also employed. For example, streams with the word "ditch" in their names often are constructed irrigation, drainage, or mill-supply water conveyances, which are not of interest for this project. Some streams that are intermittent or ephemeral were not included in the assessment if they did not flow often enough to sustain riparian vegetation. Stream reaches were at least two miles long to minimize air time for the contractor. Before making a final selection of target streams, we produced lists of potential streams in the basins to be photographed and sought the advice of local watershed councils, soil and water conservation districts, or other knowledgeable parties about the individual stream's characteristics.

After 2006, we discovered that using this randomized selection method caused another problem: It resulted in selecting too many streams with the same name. This led to two "Indian Creeks" being selected, and two "Wildhorse Creeks." Because of this, the last basins had their streams selected by hand-picking ones with the most unique names. Though not technically random, this method seemed satisfactory.

Once stream reaches of interest were picked, GPS coordinates of the stream reach were obtained and supplied to the air photo contractor, along with a time window for when they should be shot. We typically picked dates from late May through mid-June, depending on the location and weather conditions, to photograph during the anticipated maximum greening of vegetation. In some years, unanticipated late spring rains resulted in us having photographed flooded streams. The contractor would then supply us mosaicked photo sets of each stream reach.

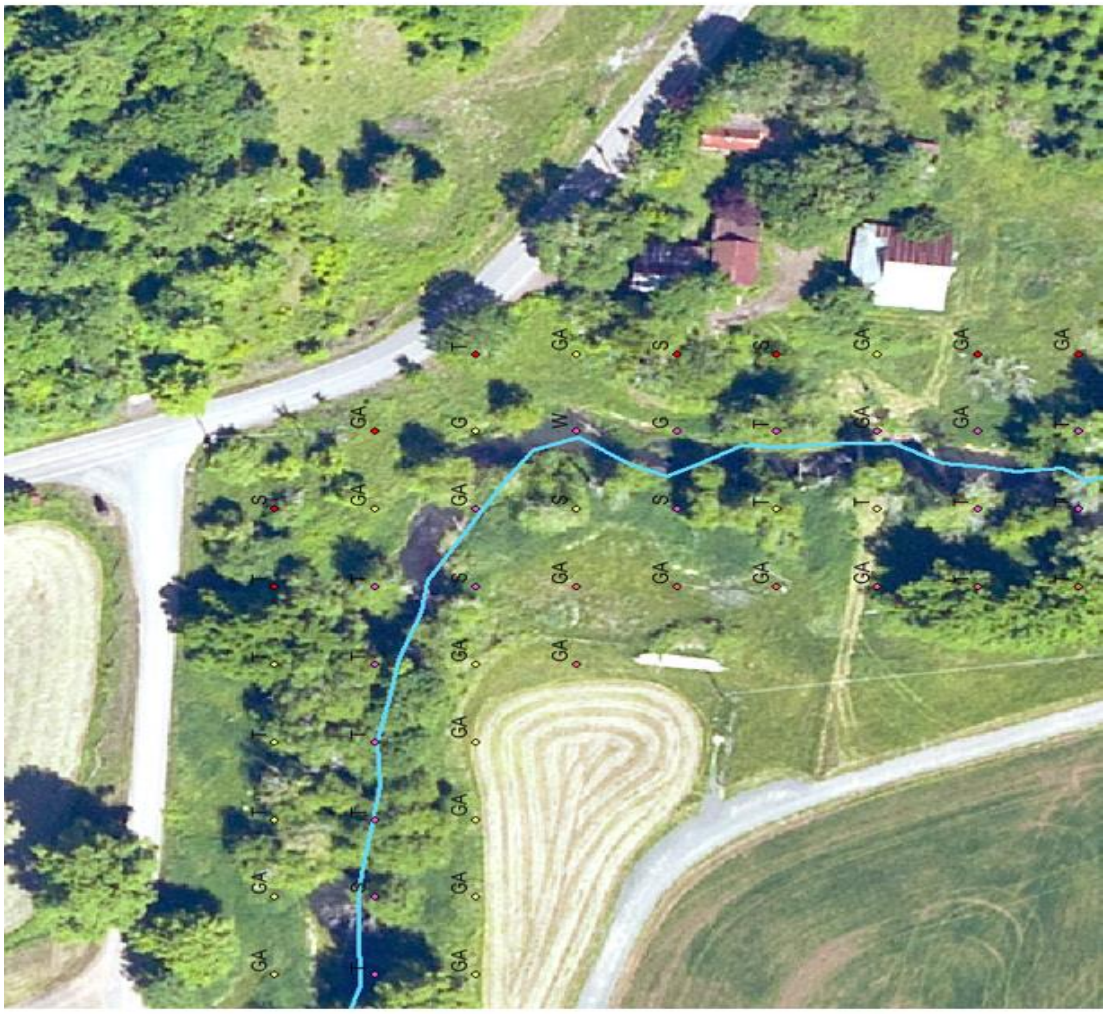
Maps showing the actual locations of the stream reaches monitored are included in Appendix A of this report.

2.2 Processing Methodology

After receiving mosaicked photographs from the contractor, ODA loaded them into the GIS system for processing. Processing included physically locating the stream of interest, delineating (potential) riparian areas, and attaching points of analysis. After this step, lines (polylines) were digitized onto the mosaics either on the center of the stream channel (if the channel was less than 30 feet across) or along each bank if channel width is greater than 30 feet. Photos with added lines were then saved as separate files from the original mosaic.

After the streams were designated with polylines, the photos were processed through an AML program that added three parallel lines 30, 60, and 90 feet from the stream polyline(s). These lines delineated three "bands" along each bank of the stream, so that riparian condition could be evaluated in three different areas along each bank, for a total of six areas. A grid (50-foot squares) was constructed over each photo mosaic and the center point of each square was marked with a dot (sample point). This created a semi-random pattern of sample points throughout each band. Every point that fell within the six bands was kept as a GIS layer and saved with the photo mosaic. Each of these dots was assigned a unique number and its own attribute table. Figure 1 is an example photograph of Panther Creek in the Yamhill Basin showing the sample points placed along the stream.

Figure 1: Example photograph of Panther Creek in the Yamhill Basin showing evaluation points. Scale is 1:850. Categories captured by these points include trees, grass/agriculture, grass, and shrub. The blue line is Panther Creek digitized onto the photograph. Note letter symbols by points describing what the cover was mapped as.



2.3 Air Photo Manual Interpretation Description

The air photos were evaluated by assigning a code to each dot within the six bands along the stream. The codes were added to an attribute table attached to each photo. Codes applied to the dots consisted of:

- T: Tree
- S: Shrub/brush
- G: Grass
- B: Bare
- W: Water
- I: Infrastructure
- U: Unknown

The modifier A was added to the end of each code when the dot fell within an area of agricultural activity (e.g. GA for grass in a pasture, SA for a blueberry field). Though the photos examined covered agricultural land, this modifier was needed to distinguish between areas where currently active agricultural activities were evident, versus areas where no active agricultural management was apparent.

Category T consists of all vegetation with a distinct canopy or branching structure. Category S was used for clumped or bunch-like vegetation that has indistinct canopies. Category G is used for all green-colored vegetation that has a carpet-like appearance. Bare ground was indicated by non-green patches that were at least 30% white, gray, or brown and did not contain infrastructure. Water was indicated by dark blue or black colors that were not the result of shade and are in a location where water would be (i.e. not on top of a tree). Roads and infrastructure were indicated by visual recognition. Specific types of infrastructure include but are not limited to the following:

- Roads
- buildings
- corrals
- bridges
- utilities
- tanks
- vehicles
- irrigation conveyances
- waste storage
- equipment
- quarries
- improved surfaces
- cemeteries
- park structures

In some instances, lateral migration of the stream channel occurred over the ten years each stream was photographed. When that happened, the original dots were not relocated, so that the land cover was compared to the previous years at the same location, regardless of the new position of the stream.

2.3.1 Area Examined

Ideally, the pixels that touch the dot were used to decide on the appropriate code. In some cases, the viewer had to look farther away from the dot to identify an area in context. An appropriate area to look at is a 15-foot radius away from the dot, even if that area falls partially in an adjacent buffer strip. Sometimes a larger area had to be looked at to determine if active agriculture was ongoing.

Initially the appropriate scale for viewing photographs was determined for each basin by the lead analyst. However, after 2004 it was decided to settle on a scale of 1:850-900.

2.4 Riparian Index Score

Data generated from the landscape cover monitoring was also converted into numeric values, which were used to provide a riparian index score (RIS) for each stream. This score represented the status of the riparian vegetation relative to overstory, consisting of trees, shrubs, grasses, or bare ground.

To calculate the riparian index score, the cover codes were changed to the following numeric values:

- T = 7
- TA = 6
- S = 5
- SA = 5
- G = 4
- GA = 3
- B = 2
- BA = 1
- U, W, and I = 0

Values assigned to the S and SA categories are the same, because (based on observations) agricultural activities have little effect on shrubs. The values were then added up for each band of the stream separately and the sum was divided by the total number of points minus the number of points with a zero value (i.e. the points that were coded U, W, and I). This gives an index score for each band. These are added together and divided by six to calculate a single riparian index score for the entire stream.

The following is an example of applying this index to Finnegan Creek in the Lower Deschutes Basin:

1	**BAND**	**30L**	**60L**	**90L**	**30R**	**60R**	**90R**
2	**TOTALS**	1,601	1,649	1,716	1,568	1,644	1,647
3	**# OF W, U, I**	31	10	11	26	0	2
4	**#OF POINTS**	396	389	419	419	387	398
5	**SUBTRACT W, U, I**	365	379	408	393	387	396
6	**TOTALS/POINTS-(W, U, I)**	4.39	4.35	4.21	3.99	4.25	4.16
7	**RIPARIAN INDEX SCORE**	43.86	43.51	42.06	39.90	42.48	41.59
8	**SCORE = 42.23**						

In this example, row 1 is the band of riparian area being assessed. Band 30L is located in the first 30 feet of area away from the left side of the active stream channel, band 60R is 30 to 60 feet away from the right side of the active stream channel, etc. Row 2 is the sum of the scores for each point evaluated in each band. Row 3 is the number of points that were assigned the categories W, U, or I. These three codes were all given the value zero. Row 4 is the total number of points evaluated in each band. Row 5 is the total number of points evaluated minus the number of W, U, and I categories. Row 6 is row 2 divided by row 5. The Riparian Index Score for each band is shown on row 7, which is the product of row 6 multiplied by ten. Line 8 displays the total riparian index score, which is the average of the scores for each band. This last number will be used for reporting purposes to represent the status of the stream reach. The total score could

range from a theoretical minimum of zero (i.e. all infrastructure, water, and/or unknown) to a maximum of 70 (i.e. all trees.)

Because site capability is variable across the state, there is no one correct riparian index score. Rather, the index is a means to evaluate change over time on individual reaches. Even though it is a numeric value, it should be thought of more as a relative measure than a quantitative one. For some basins, reference sites were identified to compare what we considered intact, undisturbed landscape conditions to those reaches monitored. The use of reference sites is discussed later in this report.

2.5 Ground Truthing

A limited number of field sites were visited to provide information on actual site conditions and to verify photo interpretation results. Plots were established at each field location. Each plot had a radius of 15 feet, an area consistent with that used for the manual photo interpretation.

Inside each plot, cover (percentage of total plot) was recorded for the following categories:

- T: Tree
- S: Shrub/brush
- G: Grass
- B: Bare
- W: Water
- I: Infrastructure

Other details of the ground truthing included the type of agriculture taking place in the plot and adjacent areas, the condition of the stream banks, flow conditions, and identification of any objects that may not have been recognizable in air photos. The ground truthing spots were recorded using GPS so that they could accurately be spotted on the air photos.

Data from ground truthing was compared to riparian conditions reported on the aerial photographs. This provided necessary quality assurance of the photo interpreter's results.

Figure 2: Photograph showing how ground truthing was done to compare to the aerial photo interpretation method. The black circle represents the 15-foot radius used to evaluate vegetation type in the riparian area.

2.6 Testing of Observer Agreement

In the first three years of the project, three different ODA analysts were responsible for air photo interpretation. The consistency of observations was tested by having each air photo analyst review the same photograph and report on the condition of the left side of the stream. This was done initially before the analysts talked to each other about how they would interpret specific features. Results of this testing showed a 74% agreement on observations between the three observers, with agreement of 81% and 89% when two observers were compared to each other. After this testing, the analysts reviewed the discrepancies in their observations to make them more consistent.

After 2005, the task of aerial photograph interpretation was done by a single staff member for the remainder of the project, so there was no need for further comparison among analysts.

2.7 Additional Information - Air Photo Review

Besides land cover, the air photos we obtained contain a wealth of information on other aspects of agricultural management and watershed health. Basic features of the streams,

such as their sinuosity and/or channelization, degree of incision, and bank integrity were also noted and described in our annual reports on landscape monitoring. In some cases, indications of excess sediment were noted, and in very few cases, upland erosion issues were identified. As mentioned previously, the landscape monitoring was intended to be passive, but there were a few cases where egregious water quality issues were noted and reported to our regional water quality specialists for investigation. A few mine sites that were observed impacting riparian areas were reported to the Oregon Department of Geology and Mineral Industries.

Signs of overgrazing and unrestricted access to streams by livestock were also noted when evident. Overgrazing was generally apparent when pasture grass was sparse with livestock present, compared to neighbor fields and when bare ground animal paths were abundant. Fences are visible in the air photos, so it was easy to tell when livestock had restricted access to streams and when they didn't.

Use of the near-infrared photos also gives us the ability to measure the true riparian zone width. During dry conditions, the only vegetation actively growing is riparian vegetation, because it is still supplied with water connected to a stream. Actively growing vegetation appears pink to bright red in near-infrared air photos, so air photos taken during periods when upland soil moisture is low will show where water is available for plants. This method does not work for irrigated areas, or near water diversions, or other sources of water besides the stream of interest. This subject is discussed further in section 3.3 of this report.

3.0 Results of the Landscape Monitoring

ODA previously prepared yearly reports of the annual landscape monitoring. These reports included tables showing the changes in riparian index score (RIS) along with graphs showing riparian cover percentages for each band. They also provided brief description of any notable conditions of streams, such as described section 2.7 above. The following is a compilation of basin-specific results previously reported in the yearly reports, along with information on how the stream riparian index score changed from the initial year of monitoring to the last (a ten-year record). It should be noted that the percent change in RIS is not shown if it's less than 1. Generally, we did not consider an RIS change of less than 4% as being significant. In the following sections, the tables show the RIS scores for each year the stream

Graphs showing the last monitored landscape cover types by band are shown in Appendix B for each stream that was photographed more than once.

3.1 Bear Creek

A total of three streams in this basin were examined - these were Emigrant Creek, Griffin Creek, and Meyer Creek. Two streams assessed in 2006 – Frog Creek and Gaerky Creeks – were not photographed in 2011 or 2016. The streams photographed showed a wide variety of landscape cover conditions with tree cover ranging from less than 10% to over 95% in single bands. Bare agricultural land ranged from 0% to over 16% in single bands. Griffin Creek had the lowest percent tree cover and the greatest percent of bare agricultural land, and it also had the lowest riparian index score. However, Griffin Creek was the only stream in this basin that showed a significant improvement in riparian score from 2006, with an 9.9% increase. This was due to an increase in tree cover in the 30-foot bands and less BA in the 60 and 90-foot bands of the right side of the stream. Overall, Griffin Creek had the highest percentage of active agricultural land.

The following table shows the change in RIS for each stream from 2006 through 2016:

Stream	2006	2011	2016	%Change
Emigrant Creek	60.12	58.23	57.35	-4.6
Griffin Creek	33.27	36.05	36.55	9.9
Meyer Creek	57.58	56.42	54.61	-5.2

The reduced score for Emigrant Creek was largely due to loss of tree cover, primarily in both 30-foot bands. The 30 L band had a 17% drop in tree cover and the 30 R lost 10% of its tree cover from 2006 to 2016. Meyer Creek lost 6-12% of tree cover all its bands, but there was also a significant reduction in bare agriculture cover.

Irrigation canals were visible crossing Griffin Creek, running underneath the stream. Much of Griffin Creek is ditched or otherwise confined, both in agricultural land and in suburban development. Most of the bare agricultural land consisted of fallow fields

adjacent to the stream. An irrigation diversion was visible on Meyer Creek, but this diversion did not severely disrupt riparian conditions.

3.2 Burnt River

Nine streams were photographed and assessed for this project. These streams were Ayers Creek, Camp Creek, Dogtown Creek, Durkee Creek, Job Creek, Lawrence Creek, Powell Creek, the South Fork Burnt River, and Swayze Creek. Powell Creek was dropped after 2007 because of limited agricultural presence. Overall, this basin had the lowest riparian index scores of all basins assessed in the state. No stream had more than 23% trees in any band but none had over 7% bare agricultural land. Job, Durkee, Dogtown, Camp, and Ayers creeks did not have any bands with more than 8% trees. The following table shows the changes in RIS from 2007 through 2017:

Stream	2007	2012	2017	%Change
Camp Creek	37.79	36.28	36.90	-2.4
Dogtown Creek	32.93	33.11	33.37	1.3
Durkee Creek	33.50	33.40	33.78	---
Job Creek	26.62	26.08	26.39	---
Lawrence Creek	35.03	35.97	37.25	6.3
SF Burnt River	35.82	36.24	36.27	1.3
Swayze Creek	34.47	34.9	35.23	1.9

Lawrence Creek was the only stream with a significant change in landscape cover over the period 2007-2017. It had modest increases in tree cover and significant reductions in bare agricultural land. Based on ground truthing and aerial imagery, Durkee Creek appeared to be recovering from heavy grazing but not enough as of 2017 to show an improvement in RIS.

- Camp Creek: Has a very sinuous channel. Actively eroding cut banks but otherwise stable and in good condition. The 2017 photo showed some downed trees along the stream but not enough to significantly reduce its RIS.
- Ayers: Narrow channel. Dry stream.
- Dogtown: Like Ayers, dry channel.
- Durkee: Lower 50% deeply incised and eroding channel. Incision is greater than 8 feet in most places. Lower reach is canyon-like in the amount of incision it has had.
- Job: Generally stable channel, high flow. Multiple diversions. Some large wood visible in lower channel.
- Lawrence: Lower 20% channelized, used for flood irrigation. Few diversions on upper reach. There was 178 feet of lateral movement of the stream between 2007 and 2012 along the non-channelized section. Figure 3 shows a photo of a segment of Lawrence Creek that had 125 feet of lateral channel migration.
- SF Burnt: Very sinuous channel with many diversions and some areas of eroding banks.

- Swayze: Sections of this stream very incised but mostly sinuous. Upper reach has a very narrow channel.

Figure 3: An example of lateral channel migration on Lawrence Creek. The green line shows the location of the original channel and the vertical blue line shows a distance of 125 feet to the current channel. This photo is from 2017 and is shown at a scale of 1:850.

3.3 Clackamas Basin

Five streams were photographed in this basin from 2004 through 2014 - these were Clear Creek, Coffee Lake Creek, Currin Creek, NF Deep, and Parrot Creek. Of these, Clear and Parrot creeks are notable for having some of the best riparian cover in the state, with NF Deep also being in very good condition. Coffee Lake Creek is a stream that is mostly channelized and suffers from impinging suburban development. Currin Creek is mostly in good condition. However, all these streams show declines in RIS.

Stream	2004	2009	2014	%Change
Clear Creek	63.38	62.0	62.0	-2.2
Coffee Lake	44.81	43.23	43.01	-4.0
Currin Creek	58.05	55.59	55.04	-4.6
NF Deep Creek	52.58	49.59	49.39	-6.1
Parrot Creek	66.57	65.41	65.15	-2.0

Clear Creek had a decline in tree cover throughout the left side but an increase in tree cover on the right side. As alluded to previously, Coffee Lake Creek's riparian cover suffered more from suburban development. Currin had a notable increase in bare agriculture cover in the 90 R band and a decrease in tree cover in the 30 L band. NF Deep had a large increase in bare agricultural cover in the 90 R band. Despite these reductions in RIS, all these streams appeared to be in stable condition.

3.4 Coos & Coquille Basins

Five streams in this basin were monitored in 2003. Four of these – Bear Creek, Catching Creek, Palouse Creek, and Twomile Creek – were also monitored in 2008 and 2013. The South Fork Coquille River was photographed three years, but the air photos from 2003 were not analyzed because the file size was too large for our GIS system to process smoothly. In 2003, we also monitored Middle Creek, but results of the image analysis showed that very little of this stream could be considered agricultural land, so it was dropped.

Visual assessment of the 2003 and 2008 Bear Creek air photos showed that many areas had noticeably denser vegetation within 90 feet of the stream bank. Some areas that were cultivated to the edge of the channel in 2003 (about 1,500 feet of channel) showed established riparian buffers in 2008. Other areas observed appeared to have improved pasture conditions.

Improved pasture conditions were also visible along Catching Creek. This stream had a noticeable increase in tree density where the cumulative percent increase was about 63% (averaging 10% per band). Some areas within 90 feet of the streambank were also flooded in 2003 and not in 2013, resulting in more visible riparian vegetation.

Palouse and Twomile creeks had reduced riparian index scores for very different reasons. Palouse Creek had been dredged shortly before the 2003 air photos were taken and the dredge spoils were left alongside the stream, effectively producing a levy. According to Department of State Lands staff, the dredging was a permitted activity and the permittee was required to spread out the spoil pile after it dried. However, the 2008 ground truthing found that the spoil pile was still in place. This reduces the ability of the area to produce suitable riparian vegetation even through 2013. Twomile Creek actually had an area of about 1,800 feet of disturbed ground along one bank of the stream in 2003 that subsequently was found well vegetated in 2008 (resulting in a 23% cumulative reduction in bare ground), however, the overall riparian index score decreased because tree density decreased by about 29% (cumulatively).

The 2008 South Fork Coquille monitoring site had a riparian index score of 66.3. All bands of riparian landscape cover were dominated by trees, with percentages ranging from 83 to 92. Bare agriculture cover was 1% or less in each band. The 2013 air photo showed that tree was reduced by 12-20% from 2008 to 2013, lowering the RIS score to 60.08. Extensive ground truthing and conversations with the Coquille Watershed Council indicated that at least some of this tree loss was due to streambank erosion problems.

Stream	2003	2008	2013	%Change
Bear Creek	33.49	36.72	37.97	13.4
Catching Lake	36.25	41.1	38.02	4.9
Palouse Creek	46.12	43.13	42.97	-6.8
Twomile Creek	46.34	44.5	44.25	-4.4
SF Coquille River	---	66.26	60.08	-9.3

3.5 Crooked River

A total of eight streams were assessed in the Crooked River Basin and all were dominated by grass/agricultural cover. Paulina Creek had the highest grass/agriculture coverage of all streams with each band having between 97 and 99%. The tree cover along Paulina was essentially zero. Tree cover for all streams except Alkali and Conant Creeks was 10% or less and only ranged to 18% on Conant, before juniper removal began between 2007 and 2012. Conant also had the highest percentage of bare/agriculture land (18%). Lytle and Ochoco creek's RIS improved because of a loss of bare/agriculture, mostly in the 90-foot bands; grass/ag. replaced the bare/ag. cover.

- Alkali Creek: Lower half of the reach is very sinuous and flows through a wide canyon. Upper section has a poorly defined channel, mostly dry.
- Conant Creek: Deeply incised channel. Ground truthing showed evidence of older erosion that had slowed. Lower section diverted so that flow doesn't reach Crooked River. RIS lowered dramatically due to active (intentional) juniper tree removal that was continuous from before 2012. Figure 4 shows part of the stream with extensive juniper removal.
- Grindstone: Very sinuous through most of the reach; some short sections entrenched with eroding banks and extensive point bars.
- Lytle Creek: Very diverse, flows out of/into four ponds/reservoirs. Upper reaches well vegetated and stable. Lower reach ditched; very lowest reach has unstable eroding channel.
- Ochoco: Lower reach shows areas affected by erosion from livestock operations. Upstream area has side-channel ponds; some areas of eroding banks.
- Paulina: Mostly marshy area with many diversions off stream. Mostly uniform channel, though lower reach shows past erosion problems.
- SF Beaver: Anastomosing channel, plus some diversions. Lower reach has eroding streambanks.
- Sheep Rock: Anastomosing channel but stable. No diversions apparent.

Stream	2007	2012	2017	%Change
Conant Creek	47.59	37.01	33.87	-29
Grindstone Creek	39.70	39.75	40.13	1
Lytle Creek	33.87	34.60	36.10	6.6
Ochoco Creek	34.60	34.60	36.09	4.3
Paulina Creek	29.91	29.95	29.97	---
SF Beaver Creek	30.48	30.49	30.52	---
Sheeprock Creek	34.59	34.60	34.33	---

Figure 4: Conant Creek, showing an area with extensive juniper removal. The blue line is the creek. Downed juniper are visible as gray shapes in the center and upper left of the photo.

3.6 Curry County

Three streams in the Curry County basin were examined for this project. The New River, Elk River, and Sixes River all were very similar in terms of physical setting, though they did possess different landscape cover percentages. The New River had the smallest percentage of tree cover, with no bands having more than 5% trees. This stream also had the greatest percentage of bare agriculture land, though none of the bands had more than 1% bare agricultural and the lowest riparian index score. It should be noted that nearly all of the right bank of this stream was located along a beach and ocean waves appeared to overtop the right bank of the stream on a regular basis. Because of this, it is not likely that riparian vegetation could be established there. Most of this area was described as bare land. The Elk River had the highest percentage of tree cover, with percentages up to 62% in the 30-foot bands. RIS improved for the Sixes River because there was a decrease in bare cover and an increase in tree cover along the right bank. All three of these streams had large sandbars in the channels and they all had channel widths of up to 120 feet wide.

Stream	2006	2011	2016	%Change
Elk River	53.30	53.39	52.52	-1.5
New River	33.31	34.99	34.21	2.7
Sixes River	44.08	44.53	45.82	3.9

3.7 Goose & Summer Lakes Basin

Eleven streams were photographed and assessed in the Goose & Summer Lakes Basin for this project. Tree percentages varied widely throughout the basin, with the smallest percentages along Twentymile Creek (zero percent trees). Bridge Creek had the highest percentage of trees with values up to 62%. The greatest amount of bare agricultural land was on Green Creek, where values up to 3% were found and where all bands had at least 1% bare agriculture. The lowest riparian index score was for Baeur Creek and the highest was for Bridge Creek.

Augur Creek had a very sinuous channel with indications of significant lateral migration. The lower section of the creek was swampy, with many small tributaries. The lower section of Baeur Creek was much like the lower section of Augur, while the mid-section was ditched with anastomosing channels. The upper 20% of Bridge Creek was also ditched, but overall it had a very stable channel. Drake Creek exhibited large amounts of channel erosion in its lower section, while the middle section was a straight, ditched channel running through marshy ground.

Drews Creek had an anastomosing channel with many sand bars in the lower section, and there were many diversions of the mid-section. Green Creek was very similar to Drake Creek, but with a narrow channel. The 2016 photos of this creek showed some intentional juniper tree removal, though the RIS for this stream still improved. Honey Creek had a generally stable channel and about half of the reach examined was sinuous. McDowell was also stable and sinuous. The mid and upper stretches of Moss Creek

showed significant bank erosion, with many sediment deposits visible in the upper part of the channel. By 2016, the channel widened because of this deposition. Peters Creek was anomalous, because it was mostly dry. Two ponds were present along the stream; both the result of dams on the stream. The channel of Peters was indistinct in many locations. Twentymile Creek was the near opposite of Peters, because most of the stream was flooded, making the channel boundaries obscured. A levied canal runs parallel to much of the reach examined. Ground truthing showed that Twentymile Creek is seasonally used as an irrigation water conveyance.

Bridge Creek had the highest RIS, but also the biggest decline in RIS. This was due to increased grazing pressure leading to more-bare/ag. cover and removal of tree cover. Drews Creek showed the greatest improvement in RIS because of a drop in bare and bare/ag. cover. Honey Creek had a significant loss of tree cover along the right bank of the stream between 2011 and 2016, leading to a 4.9% decrease in its RIS.

Stream	2006	2011	2016	%Change
Augur Creek	34.96	34.95	35.03	---
Bauer Creek	30.72	31.00	30.98	---
Bridge Creek	51.14	48.80	48.3	-5.4
Drake Creek	46.03	45.54	45.18	-1.9
Drews Creek	32.60	33.78	34.21	4.9
Green Creek	41.14	41.03	41.65	1.2
Honey Creek	49.45	46.99	47.03	-4.9
McDowell Creek	45.02	44.05	44.22	-1.8
Moss Creek	39.15	39.64	39.18	---
Peters Creek	45.73	45.05	45.18	-1.2
Twentymile Creek	33.00	33.33	33.36	1.1

3.8 Grande Ronde

Seven streams were photographed in this basin in 2005 and then again in 2015. No photos were taken in 2010 because of financial limitations on monitoring that year.

Lookingglass Creek had the greatest density of trees observed, with tree percentages ranging from 46 to 84%. Pyles and Murphy creeks had the least, with a range of 3 to 19%. Murphy Creek also had the greatest percentage of bare agricultural land – up to 12% in the 90L band.

About 5% of Pyles Creek had visibly eroding streambanks and around 85% of the reach was ditched or channelized. Approximately 30% of Murphy Creek was also ditched but some ditched areas were visibly showing lateral movement (i.e. onset of meander development). Little Creek also had some channelized stretches but these were scattered throughout the reach examined. The reach examined of Fir Creek had a very narrow channel (<10 feet) with about 10% of its length ditched. Some sections of the creek appeared to be anastomosing.

Riparian index scores for these streams ranged from a high of 60.69 for Lookingglass Creek to a low of 34.27 for Murphy Creek. There was no significant change in RIS from 2005 to 2015.

Stream	2005	2015	%Change
Clark Creek	50.10	48.80	-2.6
Fir Creek	40.22	39.82	-1.0
Gordon Creek	47.81	47.49	---
Little Creek	37.71	37.68	---
Lookingglass Creek	60.69	60.73	---
Murphy Creek	34.27	34.33	---
Pyles Creek	34.96	34.87	---

3.9 Harney County

A total of nine streams in this basin were examined in 2005 and again in 2015. The Harney County basin was first photographed on May 24-25, 2005. The late spring of 2005 was very wet throughout Harney County and most of the streams were flowing at or near bank full (with the exception of Wilson Creek.) Many areas showed indications of overbank flows, with some older stream channels having been re-occupied. There were also some flooded fields, especially along the margins of Malheur Lake. This was not the case when the basin was re-photographed in 2015; the earlier flooding did have an effect on the observations of 2005 compared to 2015.

With the exception of Poison Creek, streams examined in the Harney Basin can be put into two general categories – shrub-dominated and grass-dominated. Poison Creek was the only stream examined that had roughly equal proportions of grass and shrub cover. The greatest population of trees observed was also on Poison Creek, with 26% of the 30R band fitting this category. Most streams had less than 10% trees in every band, and Wilson Creek had no trees in any band.

Wilson Creek had the largest percentage of bare ground, though little of this was classified as "bare agriculture." Most of the bare ground at Wilson was within active sections of the stream channel that were dry. Fields Creek had the highest percentage of bare agriculture land, ranging from almost 1% in the 60L band to 6.5% in the 90R band.

Silver Creek had one reach that was an anastomosing channel. A large road washout was also visible. Multiple diversions are present along the reach examined. Diversions were also visible on Wildhorse, Riddle, Home, and Kiger creeks. The diversions on Wildhorse resulted in approximately 15% of the lower channel being dried up.

Home, Poison, Rattlesnake, Riddle, and a small section of Wildhorse Creek were at least partially ditched or channelized. By contrast, sections of Silver Creek and Wildhorse Creek also had very good sinuosity.

Riparian index scores ranged from a low of 31.61 on Riddle Creek to a high of 45.09 for Fields Creek. The reduction in RIS in Home Creek was due to loss of shrub cover and an increase in grass/ag. cover. The nominal increases in RIS for most of the streams may have had to do with the changes in water level mentioned previously.

Stream	2005	2015	%change
Fields Creek	45.55	45.09	1.0
Home Creek	45.13	43.12	-4.5
Kiger Creek	34.62	35.35	2.1
Poison Creek	43.41	44.11	1.6
Rattlesnake Creek	32.83	33.42	1.8
Riddle Creek	31.61	32.00	1.2
Silver Creek	36.12	37.06	2.6
Wildhorse Creek	42.89	43.25	---
Wilson Creek	42.43	42.43	---

3.10 Hood River

Five streams in this basin were monitored in 2004 and 2014. Air photos were also obtained in 2009, but these were received and processed late and were not analyzed. Four of the five streams analyzed had at least 50% tree coverage in each band and the fifth (Odell Creek) had 50% or more in five of the bands. The East Fork Hood River had the greatest amount of bare land cover with almost no active agriculture within the six bands. Odell Creek had significant amounts of bare agricultural land in both the 60 and 90-foot bands. Most of this bare ground was within orchards. The East Fork Hood had the highest riparian index score and Odell Creek had the lowest.

The East Fork Hood River has what appears to be an anastomosing channel in the upper 50% of the reach examined. The channel is very dynamic with many bare point bars, and at least two active channels. There is almost no active agriculture within 90 feet of the banks. In general, the Hood River basin streams all had large amounts of tree cover and little agriculture activity within 90 feet of the stream. No significant changes in land cover were measured from 2004 to 2014.

Both Griswell and Indian creeks have about 5-10% of their examined lengths channelized. Odell Creek also had some channelized sections and about 5% of the banks are visibly eroding.

Stream	2004	2014	%change
EF Hood River	63.68	63.56	----
Griswell Creek	63.12	62.81	----
Indian Creek	61.71	61.36	----
Neal Creek	60.95	61.37	----
Odell Creek	57.75	56.02	----

3.11 Inland Rogue

Nine different streams were assessed in the Inland Rogue basin in 2006, 2011, and 2016. Streams in this basin had a wide-range of characteristics, with riparian index scores ranging from 39 to 60. Some streams with relatively high index scores still had significant amounts of bare agricultural land. Thompson Creek had a 10% reduction in RIS from 2006 to 2011. Most of this score reduction was due to loss of tree cover, though bare and bare/agriculture land did not change appreciably. However, from 2011 to 2016, the RIS for this stream improved back to 2006 conditions due to shrub cover increase.

Constance Creek had improved visibly with a more stable channel that had increased grass cover. The riparian vegetation was more mature, leading to more trees and shrubs being counted by the points of analysis placed on the photographs. The 2006 photographs showed this stream having a visibly eroding channel. The 2016 photos showed a quarry impinging on the riparian area. Lateral bars on Evans Creek showed mature riparian vegetation, leading to stabilization. Some lateral and mid-channel bars had been transported away since the 2006 photographs and some lateral migration of the channel was apparent. The Illinois River was much like Evans Creek but not with as much improvement. Maturing riparian vegetation along the Illinois was very noticeable.

Whetstone Creek had only a minor improvement in RIS, but conversations with ODFW stream habitat surveyors revealed that they had seen a notable increase in deciduous trees along this stream going back to 2000. ODFW staff also provided useful insight into the large changes seen in the Inland Rogue streams. They had surveyed Thompson and Whetstone creeks in 2000, 2003, and 2006 along with some other streams in the basin; they also surveyed Whetstone in 2009. Their observations suggest that streams in the Inland Rogue showed much channel erosion by the storms of 1996 and 1997, and the improvements we observed between 2006 and 2011 are at least in part to the channels still recovering from those storm events.

Stream	2006	2011	2016	%change
Constance Creek	42.79	45.52	44.61	4.3
Evans Creek	53.54	54.99	53.67	---
Illinois River	51.75	53.88	53.95	---
Lower Applegate	58.46	59.64	59.29	1.4
Reese Creek	51.16	53.27	52.77	3.1
Sams Creek	54.98	55.99	55.69	1.3
Thompson Creek	43.10	38.72	42.78	---
Whetstone Creek	39.15	40.67	40.37	3.1

3.12 John Day Basin (Middle & North Forks)

Five streams were photographed in this basin in 2003, 2008, and 2013. The 2003 air photos were obtained from the U.S. Bureau of Land Management as a cost-saving experiment and were found to not be as of high quality as the ones we contracted. The

2008 and 2013 air photos were obtained from our regular source. Streams in this basin showed the effects of high flow events, especially from 2003 to 2008. The reach of Camas Creek monitored was found to be about 75% channelized. The upper reach of this stream had active riparian planting visible in the 2013 photos in a section where the channel was anastomosing. The section where the stream goes from anastomosing to channelized is shown on figure 5. The RIS for this stream declined by 6.8 percent from 2003 through 2013 mostly because of tree loss within 30 feet of the channel and an increase in bare cover. The Fox Creek reach was mostly in rangeland and the stream channel was sinuous. Lots of downed logs were visible in the active channel. The RIS for this stream improved by more than 12% mostly because of increased tree cover in the 90-foot bands, indicating that people were allowing riparian vegetation to re-establish. Long Creek had multiple diversions and flood-irrigated pasture. Its RIS improved by more than 13% due to large decreases in bare/ag. cover. The channel of this stream was not sinuous, but did not appear channelized either. The Rock Creek reach monitored showed extensive lateral channel migration, and this may explain the tree cover loss that resulted in a RIS reduction of more than 16%. Strawberry Creek showed an RIS reduction of more than 11% for the same reason as Rock Creek. This stream appeared to have a stable channel with little lateral migration, and two diversions were visible.

Stream	2003	2008	2013	%change
Camas Creek	42.95	40.74	40.01	-6.8
Fox Creek	50.11	55.55	56.15	12.1
Long Creek	31.89	34.81	36.07	13.1
Rock Creek	54.87	46.99	45.91	-16.3
Strawberry Creek	58.08	52.64	51.50	-11.

Figure 5: Camas Creek, 2013 photo shown at 1:4000 scale, showing the anastomosing channel in lower right being constrained into a single channel.

3.13 Klamath Headwaters

Seven stream reaches were assessed in the Klamath Headwaters Basin, with photographs taken in 2006, 2011, and 2016. These reaches all had very similar riparian index scores that ranged from 29 to 33. Most bands were dominantly GA, with percentages in this category ranging from 65 to over 90. None of the reaches had over 8% trees in any bands and overall the Sycan River had the most tree cover. The Sycan also had the greatest amount of bare land in any band with 12% in 30R.

Sections of Fishhole, Fritz, Paradise, and Whisky creeks had been straightened and ditched. Most of the Paradise Creek reach examined had been ditched. Sevenmile

Creek did not appear to have been ditched but the channel was unstable with many mid-channel bars (submerged in the photos) and multiple diversions. The upstream end had hundreds of dead trees near the channel and these were visible in all the photos taken. Figure 6 shows a reach of the stream with dead trees scattered about. The Sycan and North Fork Sprague both appeared marshy in the lower reaches examined and both had multiple canals and ditches running parallel to the main channel. Ground truthing showed improvements in protecting the NF Sprague as of 2011 with the addition of more riparian fencing.

All the streams showed modest improvements in their RIS, though Fishhole Creek was the only one with a significant increase. This was due to reduced grazing; changing a large amount of grass/ag. cover to grass cover.

Stream	2006	2011	2016	%change
Fishhole Creek	29.75	30.79	31.07	4.4
Fritz Creek	29.71	30.09	30.06	1.2
NF Sprague River	30.45	31.04	30.83	1.2
Paradise Creek	31.46	32.18	32.26	2.5
Sevenmile Creek	31.44	30.96	31.90	1.5
Sycan River	33.53	33.89	33.99	1.1
Whiskey Creek	30.10	30.36	30.34	---

Figure 6: A section of Sevenmile Creek, shown by the blue line. Dead trees are visible scattered mostly below the creek, looking like toothpicks. These were present in all three sets of photos taken of this stream

3.14 Lower Deschutes Basin

The seven streams analyzed in this basin showed a wide variety of land cover types. They were photographed in 2004 and again in 2014. Bakeoven and Booten creeks had very mixed land cover with no single type dominant. Trail Hollow and Threemile creeks

were dominated by tree cover. Spanish Hollow and Finnegan creeks were dominated by shrubs and Larch Creek was dominantly grass. Large amounts of bare land were present on Bakeoven, Booten, and Finnegan creeks, though much of this was because of rock outcrops and/or thin soils. For example, nearly 30% of the 90 Right band of Bakeoven Creek was bare ground, but only 4% of that was in agricultural use (and there was no urban or forestry land uses in the reach examined). With the exception of Threemile Creek, all streams did have significant amounts of bare agricultural land. Threemile Creek had the highest riparian index score (54.24) while Larch Creek had the lowest (42.23).

In terms of qualitative aspects, Bakeoven Creek appeared to have an unstable channel with many bare point bars. The reach examined showed evidence of an aggrading channel, though there was no indication of any factors that might have led to this instability.

Booten Creek is located in a narrow valley with very little room for lateral stream migration. Some areas of the reach showed signs of heavy grazing pressure with many animal trails. However, by 2014, grazing pressure appeared to have been reduced. The stream channel itself appeared mostly stable. Trail Hollow and Finnegan creeks were much like Booten in these aspects, though Finnegan Creek was not confined by valley width as much as the other two streams.

About 30% of Threemile Creek appeared to be overgrazed with unstable or eroding streambanks in the 2004 air photos but it too appeared to have improved management by 2014. A channelized reach is evident through a short reach of rural residential development. Larch Creek also had some areas of heavy agricultural use with channel incision and some areas denuded by overgrazing. The lower 20% of the reach examined appeared to be adversely impacted by agricultural activities and the upper 5% showed strong evidence of overgrazing. This had improved somewhat from 2004 to 2014. Ground truthing of Spanish Hollow showed this reach to be in an ecotone. This was the only stream observed where blackberry vines were growing amid sagebrush.

Even though management appeared to improve on some of these streams, RIS in general had declined. Bakeoven Creek had the biggest decline in RIS because of tree cover loss (even though bare and bare/ag. cover decreased). The same was true for Trailhollow Creek. This appeared to due to high flows eroding banks, because many areas of the streams were seen to have fallen logs along the banks.

Stream	2004	2014	%change
Bakeoven Creek	49.68	45.60	-8.2
Booten Creek	49.16	47.52	-3.3
Finney Creek	42.29	42.60	---
Larch Creek	42.23	42.94	---
Spanish Hollow	45.05	43.42	-3.6
Threemile Creek	54.24	52.72	-2.8
Trail Hollow	52.26	50.94	-2.5

3.15 Lower John Day Basin

Five streams were assessed in this basin with photos taken in 2007, 2012, and 2017. Riparian index scores for these streams had a narrow range with the highest being 39 for Juniper Creek and the lowest at 30.40 for Rosebush Creek. Tree coverage was highest for Juniper with one band reaching 40%. Tree coverage was essentially zero on Rosebush Creek. Juniper also had the highest percent of bare land, due to rock outcrops. Bare land coverage on Juniper ranged from 5 to 19% but there was no bare/agriculture. Bare/agriculture land was greatest on Lone Rock Creek with one band reaching 5%.

Streams in this basin had some interesting qualitative features. Juniper Creek had a stable channel throughout the area assessed. Most of stream is bounded on the west side by lava flows; part of the stream reach is in a slot canyon. One part of the stream makes a nearly right-angle turn, though there was no indication of any human influence on the channel configuration. RIS for these streams showed mostly modest improvements, except for Rosebush Creek. This stream had an increase in bare cover and a loss of shrub/ag. cover resulting in a 9.5% reduction in RIS.

- Lone Rock Creek: Mostly stable with few areas of bank erosion.
- Rock Creek: Upper reach shows many unvegetated point and mid-stream bars, indicating an excessive sediment load. Uppermost section has recent riparian plantings; the lower reach was partially channelized but stable.
- Rosebush: Mostly a channelized, narrow stream. It has multiple small impoundments; but mostly stable channel.
- Thirtymile Creek: Large numbers of cattle visible on upper reach but channel is stable throughout. Appears that a large amount of sediment from rock avalanches and other upland erosion has affected the stream.

Stream	2007	2012	2017	%change
Juniper Creek	39.01	38.57	38.43	1.5
Lone Rock Creek	38.94	39.05	39.80	2.2
Rock Creek	33.41	34.01	34.68	3.8
Rosebush Creek	30.40	30.39	27.55	-9.5
Thirtymile Creek	31.49	31.88	31.66	---

3.16 Lower Willamette Basin

Only three streams were monitored in this basin due to the very limited amount of land in agricultural development. Aerial photographs for a fourth stream, Mt. Scott Creek, were obtained but ground truthing revealed that there was little or no agricultural development remaining in the reach examined. In addition, Osburn Creek showed strong indication of land use changing from agricultural to suburban and industrial; it was not photographed again after 2004. Johnson Creek was photographed in 2004, 2009, and 2014, and Kelly Creek was photographed in 2004 and 2014.

Kelly and Johnson creeks were both dominated by tree cover with no bands having less than 49% trees and most having over 60%. Osburn Creek also had a high percentage of tree cover but with large shrub cover also. All three streams had significant amount of bare land; on Kelly and Osburn creeks this was due to factors other than agricultural activities. The RIS for Johnson Creek dropped almost 5% from 2004 to 2014 due to tree loss and increased bare/ag. Cover; much of the bare/ag. cover was associated with nurseries.

Stream	2004	2009	2014	%change
Johnson Creek	58.85	57.63	55.99	-4.9
Kelly Creek	61.49	---	60.78	---

3.17 Malheur Basin

A total of nine streams were initially monitored in this basin. Photography began in 2007 and ended in 2017. Riparian index scores for these streams ranged from a low of 30.59 for the South Fork Malheur River to a high of 43.58 for Gum Creek. Tree cover never exceeded 4% in any bands. Bare ground was greatest in one band of Crane Creek (16%), though one band in the South Fork Malheur had 10% bare ground. Bare/agriculture was also highest in one band of the South Fork Malheur. About half the streams were dominated by grass/agriculture, while the other half were dominantly shrub/agriculture.

- Cow Creek: Upper 80% of reach is a poorly defined channel; mostly dry. This stream was only photographed in 2007.
- Crane Creek: Has some large diversions; part of reach flowed through a corral with bare soil. Stream becomes anastomosing near mouth.
- Gum Creek: Sinuous channel; middle reach is dry. Lower 15% has eroding banks; partially incised. This stream was photographed in 2007 and 2012 but not in 2017.
- Lost Valley Creek: Most of this reach is dry but has a distinct channel. This stream was only photographed in 2007.
- North Clover Creek: Most of the reach is very stable but lower 10% is ditched and eroding.
- South Fork Malheur River: Mostly stable but lower reach has four diversions that acquire large amount of flow.
- Stinkingwater Creek: Channel is stable but water was green as though too much algae or other aquatic vegetation is present. New farmland had been developed sometime between 2012 and 2017, with recently tilled land visible in the 2017 photographs. The new farm ground did not impact the riparian area significantly; based on the RIS not changing from 2012 to 2017.
- Swamp Creek: Lower 10% has large point bars that are becoming vegetated, indicating past erosion problems. Upper reach is relatively stable; few small diversions.

- Wolf Creek: Sinuous channel with some cut-off meanders. Historic channels visible are even more sinuous. One large diversion is present. Channel in very good condition.

Stream	2007	2012	2017	%change
Crane Creek	30.98	31.17	31.25	---
Gum Creek	43.58	42.85	----	---
N Clover Creek	34.79	34.94	34.89	---
SF Malheur River	30.59	30.79	1.44	2.8
Stinkingwater Creek	30.78	31.18	31.06	---
Swamp Creek	40.22	39.99	39.26	-2.4
Wolf Creek	33.38	33.61	33.76	1.1

3.18 Middle Deschutes Basin

Six streams were monitored in this basin in 2003, 2008, and 2013. This basin had the two streams with the most and least diversity. Trout Creek was slightly dominated by grass/agriculture but also had significant coverage of everything else except trees and infrastructure. By contrast, Antelope Creek was dominantly grass/agriculture with some water and bare ground. With the exception of Willow Creek, trees and shrubs together never accounted for more than 25% of any band. Willow Creek bands showed between 18 and 50% trees and an insignificant percentage of shrubs. Pony and Amity creeks had relatively large amounts of bare (and some bare/agriculture) ground, though this was often because of shallow soils and rock outcrops. Much of the bare ground at Indian Creek was also due to rock outcrops.

Amity Creek showed evidence of lateral channel migration between 2003 and 2008. In some areas, the channel was measured as having moved 15 feet; one meander showed 75 feet of displacement. A delta bar at the mouth of the stream was measured as being 12 feet longer than in 2003 and some other lateral bars in the stream had also increased in size. This indicates a large amount of sediment transport in the stream. Amity also had an increase in shrub and tree growth and a decrease in bare land and bare/agricultural land. These factors – high sediment loads, reduced bare ground, and increased vegetation – may indicate past erosion problems that are now healing. The high sediment loads may be the result of material eroded years ago working through the stream channel.

Even though Indian Creek had a lowered riparian score in 2008 compared to 2003, this appeared to be due to re-classification of grass to grass/agriculture. The 2008 photos showed a larger area being grazed; possibly because of wetter conditions. This was also true in 2013. It's not clear whether grazing was "new" as of post-2003, or just not evident until 2008.

Both Trout and Pony creeks had very little change in landscape cover and no significant change in their riparian index scores. Willow Creek also had no significant change in its score, though the landscape cover data showed a large loss of trees. This appeared to be

the result of flooding or some other natural disturbance because one large grove of trees was observed in the 2008 photos to be dead, standing snags, and fallen logs. These trees appeared intact in the 2003 photos. The riparian score didn't change appreciatively because of a decrease in bare/agricultural cover and increases in grass/agriculture and shrub cover.

Stream	2003	2008	2013	%change
Amity Creek	35.69	37.26	38.00	6.4
Antelope Creek	29.38	29.86	29.61	-----
Indian Creek	42.26	39.50	39.42	-6.7
Pony Creek	35.12	35.72	34.70	-1.1
Trout Creek	35.19	35.38	35.99	2.2
Willow Creek	37.41	37.35	36.80	-1.6

3.19 Mid-Coast Basin

Four streams that were monitored in 2003 were also monitored in 2008 in this basin. Three additional streams were originally monitored in 2003 but were not re-done in 2008 because we determined that we had a large enough sample size of streams in this basin. However, we did add another stream in 2008 – the North Fork Siuslaw – as a replacement for the mainstem Siuslaw done in 2003. This change was made because we decided the North Fork Siuslaw was more representative of agricultural use than the mainstem. Five streams then were also monitored in 2013.

Of the four streams monitored both in 2003 and 2008, two had no significant change in their riparian index scores, while the other two had a significant decrease.

However, after extensive review of the air photos, both 2003 and 2008 versions, it appears that the differences in riparian scores for Deadwood and Elk Creek were due to interpretation errors in 2003. As mentioned previously, 2003 was the first year of this project, and ODA staff were not yet proficient in identifying all landscape features. Also at that time, three staff members were doing interpretations independently. Testing of observer agreement on one stream in 2003 showed that the three staff agreed on interpretations 80% of the time. Examination of the landscape cover data from 2003 to 2008 suggests that all streams had a reduction in tree cover but detailed examination of the photos side-by-side does not bear this out. It appears instead that many shadowed areas were interpreted as being tree cover in 2003, when the 2008 photos had better lighting conditions showing the presence of other landscape features. Overall, there did not appear to be an appreciable change in landscape cover from 2003 to 2008.

The North Fork Siuslaw had the lowest riparian index score of all the streams monitored in 2008 of 43.01. This is mostly due to the low percentage of trees on the right bank where no more than 16% of any band were trees. Bare agricultural cover ranged from 1 to 9.6%.

In the following table, the percent change is based on the five-year difference between 2008 and 2013. This is because of the observations noted above about the differences between the 2003 and 2008 interpretations and the consistency seen from 2008 to 2013. Bummer Creek was the only stream with a significant change in RIS from 2008 to 2013; this was due to about a 20% decrease in tree cover in each of the left bands.

Stream	2003	2008	2013	%change
Bummer Creek	54.69	54.25	50.34	-7.5
Deadwood Creek	62.64	58.75	58.99	---
Elk Creek	65.43	61.50	59.99	-2.5
Indian Creek	62.95	62.17	62.09	---
NF Siuslaw River	---	43.01	42.97	---

3.20 Mid-Willamette Basin

Six streams were assessed in the Mid-Willamette Basin in 2007, 2012, and 2017. The highest riparian index score was calculated for Greasy Creek with 62.41, while the lowest was for Oak Point Creek with a score of 40.21. Greasy Creek had tree cover ranging from 51 to 89%, while Oak Point had 19-38% trees. Soap Creek had the highest percentage of bare/ag land with values ranging from 9-10%, though its riparian score was still respectable at 60.33.

- Fern Creek: This stream was about 20% ditched, with most of the reach having a narrow channel. The upper end of the reach was in a swampy area with one in-channel pond.
- Greasy Creek: This stream was in good shape throughout the reach.
- Jont Creek: About 50% of the reach was ditched with a narrow channel.
- Oak Point Creek: Most of this reach was ditched with a narrow channel; some field cultivation was evident right up to the banks of the stream.
- Soap Creek: Mostly in good condition but about 10% of the reach had been ditched.
- Tum Tum River. This stream was in good condition with a lot of sinuosity throughout the reach; there is only minor, low-intensity agricultural along this river.

Stream	2007	2012	2017	%change
Fern Creek	46.81	45.32	44.71	-4.5
Greasy Creek	62.41	60.30	60.17	-3.6
Jont Creek	52.60	52.81	51.35	-2.4
Oak Point Creek	40.21	40.24	41.77	3.9
Soap Creek	60.33	60.84	59.98	---
Tum Tum River	60.13	59.05	59.14	---

3.21 Molalla/Pudding Basin

This basin has a large amount of agricultural development; a total of thirteen streams were analyzed. Aerial photographs for a fourteenth stream –Brush Creek – were also obtained but the channel was not clearly developed enough to be visible. Air photos were shot in 2004, 2009, and 2014.

Five of the streams analyzed – Bochler, Case, Cold, Kraus, and Morgan creeks – had large percentages of water in the 30 and sometimes 60-foot bands. This was because these streams apparently have been dammed in multiple places to form reservoirs or, in the case of Case Creek, are used as irrigation water conveyances.

McKinney Creek had the largest percentage of bare ground – mostly in active agricultural use – with up to 21% bare in the 60 Left band. Bochler, Chehulpum, Cold, Kraus, and the West Fork Champoeg creeks also had significant percentages of bare ground in agricultural use. These percentages changed from year to year depending on whether fields were in perennial grass or being actively cultivated during the time of the photography. Case and Fruitland creeks had the least amount of bare/agriculture cover. Fruitland Creek was found to have a relatively large rural residential use; this stream may develop into more suburban use in the future. Gribble Creek had the largest percentage of tree cover, while Kraus and McKinney creeks had the lowest. In general, streams with smaller amounts of tree cover had the highest grass/agriculture cover and visa-versa.

Many of the stream reaches examined had a “ditched and dammed” pattern where the stream was either flowing in a ditch or was backed up by some sort of dam. Boschler, Kraus, Morgan, and Ryan creeks had at least 50% of their monitored lengths fit into this description. Figure 7 shows a “dammed and ditched” section of Kraus Creek. Most of the other streams had extensive reaches that were ditched, including Chehulpum Creek (75% ditched), Kaiser Creek (50% ditched), Kraus Creek (20% ditched), Patterson (20% ditched), and West Fork Champoeg (90% ditched). Gribble Creek had the highest riparian index score with 60.92, while McKinney had the lowest with 35.60.

Stream	2004	2009	2014	%change
Boschler Creek	42.94	42.16	42.90	---
Case Creek	58.91	58.80	57.26	-2.8
Chehulpum Creel	40.45	40.94	41.27	2.0
Cold Creek	59.68	58.56	58.00	-2.8
Fruitland Creek	60.51	59.47	59.18	-2.2
Gribble Creek	60.92	60.26	58.00	-4.8
Kaiser Creek	48.96	50.40	50.68	3.5
Kraus Creek	36.52	38.11	37.27	2.1
McKinney Creek	35.60	38.41	40.20	12
Morgan Creek	40.92	40.46	39.76	-2.8
Patterson Creek	55.43	57.12	57.19	3.2
Ryan Creek	56.13	56.18	57.29	2.1
WF Champoeg Creek	46.03	43.70	46.70	1.5

Case Creek is notable for having had a section where the landowner intentionally removed 60+ trees and undergrowth, resulting in an ODA enforcement of riparian rules. This occurred between the 2009 and 2014 photographs and influenced the RIS in 2014. The RIS for Gribble Creek dropped because of tree cover loss in all six bands. The large increase in McKinney Creek's RIS was mostly the result of fields put into perennial grass; there was less disturbance of vegetation within 90 feet of the stream.

Figure 7: Kraus Creek, channel shown by blue line. This is an example of a "dammed and ditched" stream where it was channelized and impounded multiple times throughout its length. The scale of this photo is shown at 1:1,750.

3.22 North Coast Basin

Five streams were monitored in this basin in 2003, 2008, and 2013. North Coast Basin streams generally had greater populations of trees and shrubs in all bands, compared to almost all the other basins. All of the streams had at least 50% trees/shrubs within 30

feet of the stream and four of the six streams had at least 50% trees/shrubs within 60 feet. The Kilchis was the only stream with significant amounts of bare ground, with 9% bare/agriculture in one of the 90-foot bands. The Kilchis lost a large amount of tree cover in the 60 and 90 Left bands from 2003 to 2008, resulting in a significant decrease in its RIS. Grass and grass/agriculture increased in all streams from the 30-foot to the 90-foot bands, with the greatest amount on the NF Nehalem (67%).

Stream	2003	2008	2013	%change
Kilchis River	54.62	52.33	52.14	-4.5
Lewis & Clark River	52.88	52.97	53.08	---
Miami River	49.37	49.53	49.89	1.3
Nehalem River	54.52	54.06	55.01	---
NF Nehalem River	48.48	47.87	47.72	-1.6

3.23 Owyhee Basin

Nine streams were initially monitored in the Owyhee Basin, but Crowley Creek was only photographed in 2007, and Hooker Creek was photographed in 2007, 2012, and 2017; the 2012 photo was not useable. The rest of the streams were photographed in 2007, 2012, and 2017. The highest riparian index score was measured at 40.17 for Crooked Creek, while the lowest was 29.54 for Crowley Creek. None of the streams had tree cover over 13% in any band and most had 1% or less; the greatest percentage of trees was found along Stockade Creek. The Owyhee River had the greatest percentage of bare land (27% in one band) but this was due to the presence of large sand bars. Crooked Creek had the highest percentage of bare/agriculture land with one band at 7%.

- Crooked Creek: This is a really interesting stream. It appears to have been channelized years ago but now has regained meanders. Also, the channel was extended to make the stream flow around a butte, resulting in a lengthened channel. Overall, the channel appears stable; some point bars suggest past high sediment loads. The lower 10% of the reach drops into a narrow canyon with limited access for livestock.
- Crowley Creek: Flows out of reservoir; upper reach below reservoir is mostly bare soil stream banks. Middle section is a series of isolated pools with no surface flow between them; flows in and out of two canyons with heavily grazed areas throughout the reach.
- Hooker Creek: Sinuous, mostly stable channel. Some small diversions present, but flow visible throughout reach.
- Jordan Creek: Mostly stable channel with one large diversion present. Lower 10% shows excess sediment load with mostly bare point bars. The RIS for this stream improved due to increased shrub cover, mostly along the lower reach.
- Mahogany Creek: Mostly stable channel but has a large density of algae or some other aquatic vegetation. Some short reaches of the stream have been channelized.

- Oregon Canyon Creek: About 80% of this reach is anastomosing, with up to five channels visible. Stream was dry during the 2007 and 2012 photos but flowing in 2017. A fire burned up much of the vegetation between 2012 and 2017 but ground truthing in 2017 showed that riparian vegetation was re-establishing.
- Owyhee River: Stable reach of river; downstream section has some large sandbars that may be the result of past sediment problems.
- Stockade Creek: Narrow channel, stable.
- Succor Creek. Most of this reach has indications of excess sediment loads; about half the length has eroding banks. At least two diversions are present as well as nearby flooded fields. The RIS for this stream improved because of reduced bare cover and increased shrub cover. In some areas of the stream, new shrub growth was very pronounced. It's not clear from the photos whether the shrub growth here and on Jordan Creek was due to changes in land management or climate changes.

Stream	2007	2012	2017	%change
Crooked Creek	40.17	39.95	39.54	-1.6
Hooker Creek	33.20	----	32.96	-----
Jordan Creek	30.93	32.18	32.44	4.9
Mahogany Creek	31.11	31.22	31.21	-----
Oregon Canyon Creek	36.27	36.49	35.95	-----
Owyhee River	37.27	37.53	38.28	2.7
Stockade Creek	35.96	37.14	37.38	3.9
Succor Creek	29.89	30.62	31.65	5.9

3.24 Powder River Basin

A total of eleven streams were monitored in this basin; though only nine of them were photographed three times (2007, 2012, 2017). Riparian index scores for these streams ranged from a high of 45.45 for Magpie Creek to a low of 31.12 for Gentry Creek. Beagle Creek had the largest percentage of tree cover with one band at 56%. Two of the streams had essentially no tree coverage. Second Creek had the highest percentage of bare land with one band at 11%, while two streams had no bare land. Sag Creek had the greatest amount of bare/agriculture land with one band at 13%. Most of the streams were dominated by grass/agriculture cover, except Magpie Creek, which was dominated by shrub/agriculture (52 to 90%). The following are the qualitative descriptions of these streams:

- Beagle Creek: Narrow channel with good flow; three diversions present along this reach. Most of the reach has a dense cover of riparian trees, except for the bottom 5%. The RIS score declined due to tree loss; most of which occurred from 2007 to 2012 on both sides of the stream.
- Daly Creek: Stream was running bank full with some large wood visible in channel. Entire reach is stable and in good condition; two diversions present. The improved RIS was mostly the result of increased shrub and shrub/ag. cover, and a corresponding decrease in grass/ag. cover.

- Ebell Creek: Narrow channel, mostly stable; one diversion visible. This stream's RIS increased due to increased tree cover in the 30-foot bands.
- Gentry Creek: Mostly an engineered channel, with multiple impoundments. Lower and middle reaches are ditched; some non-ditched areas show bank erosion.
- Houghton Creek: Upper 75% is a narrow meandering stream but lower section widens out and is incised; only intermittent flow visible. This stream was only photographed in 2007.
- Love Creek: Narrow, slightly sinuous stream. Large numbers of cattle visible and appear to have free access to the creek; stream banks generally look stable.
- Magpie Creek: Upper 60% is a dry, partially indistinct channel. Lower section has visible water, a wider channel, and many cattle in the stream and along riparian grasslands.
- Ruckles Creek: Middle section of the stream barely has a channel. Upper section flows through irrigated fields; lower section is ditched but with riparian trees. The large decrease in RIS was due to the increased bare/ag. Cover; bare/ag. cover ranged from 24 to 37% in 2017. The 2017 photographs showed fields being tilled and cultivated up to the edge and even through the stream.
- Sag Creek: Nearly all of this stream has been channelized; may be used as an irrigation conveyance.
- Second Creek: Upper 50% is a narrow channel, lower half is a series of impoundments connected by a poorly defined channel that was dry when photographed. This stream was only photographed in 2007.
- Sutton Creek: Most of this reach is stable and in good condition though some areas show damage due to cattle access, with cattle visible.

Stream	2007	2012	2017	%change
Beagle Creek	44.76	43.13	42.37	-5.3
Daly Creek	33.96	35.72	36.17	6.5
Ebell Creek	34.87	35.43	36.37	4.3
Gentry Creek	31.12	31.40	31.71	1.9
Love Creek	31.82	31.95	32.22	1.3
Magpie Creek	45.45	45.22	45.18	---
Ruckles Creek	32.98	33.17	27.40	-16.9
Sag Creek	33.25	33.79	33.67	1.3
Sutton Creek	36.32	37.06	38.91	7.1

3.25 South Santiam Basin

Ten streams were monitored in the South Santiam Basin but only nine of these were photographed all three years (2007, 2012, and 2017). Riparian index scores for these streams ranged from a low of 32.44 for Plainview Creek to a high of 54.67 for Crabtree Creek. Plainview Creek had the band with the least coverage by trees at 6%, while Crabtree had the greatest tree coverage with one band at 56%. Bare ground was less than 5% for all bands on all streams except one band on Hamilton Creek and one on Owl

Creek. Bare/agriculture ground was highest on Plainview Creek (17% in one band), though both Cochran and Crooks creeks had one band with 15%. All the streams showed improvements in their RIS, except Crabtree and Hamilton creeks. 2017 was a very wet year in this basin but the RIS improvements were seen both in 2012 and 2017; implying that management and not climate conditions were responsible for the improvements.

- Cochran Creek: About 90% of this stream reach was ditched and straightened.
- Crabtree Creek: A wide stream that appears to have a large sediment load; many bare point bars visible. The RIS decreased mostly because of tree loss and an increase in bare/ag land in the right bands. This stream also had a significant amount of lateral channel migration between 2007 and 2012. Surprisingly, this was the only stream in the basin exhibiting noticeable channel movement.
- Crooks Creek: About 50% of this reach is swampy, while the upstream section has many impoundments.
- Hamilton Creek: This reach had fairly good sinuosity but the bare point bars visible indicate excess sediment loading; the RIS dropped mostly due to tree loss in both bands.
- Muddy Creek: This reach has very good sinuosity but the channel width varies from about 40 to about 100 feet for no apparent reason; increased shrub cover raised the RIS of this stream significantly.
- Noble Creek: This reach is basically a narrow channel through swampy ground and was only photographed in 2007.
- Owl Creek: About 70% of this reach is ditched and likely used as an irrigation conveyance. The lower 20% of the reach has good sinuosity but is dammed with ponded flow. In the 2017 photograph, it was obvious that the banks of this stream had been sprayed out with an herbicide.
- Pierce Creek: About 60% of this reach appears to have been channelized in the past but is now regaining some sinuosity. Much like Muddy Creek, Pierce Creek's RIS increased because of increased shrub cover, though there also was an increase in tree cover in both 60-foot bands. Conversely, bare/ag. cover in the 90 right band also increased by more than 10%.
- Plainview Creek: Nearly all of this reach is ditched; upstream stretch has a faintly defined channel.
- Spoon Creek: Part of this reach is dammed and ditched, though some straightened reaches also have extensive riparian vegetation. The RIS improved because of increased tree cover in the 30 and 60-foot bands, though bare/ag. cover also increased in the 90-foot bands.

Stream	2007	2012	2017	%change
Cochran Creek	34.39	34.58	36.42	5.9
Crabtree Creek	54.67	52.68	52.81	-3.4
Crooks Creek	45.89	47.08	48.27	5.2
Hamilton Creek	54.37	50.98	50.55	-7.0
Muddy Creek	42.93	44.27	45.26	5.4
Owl Creek	38.40	38.93	39.89	3.9
Pierce Creek	40.88	42.98	43.51	6.4
Plainview Creek	32.44	31.83	33.76	4.1
Spoon Creek	35.73	36.30	37.79	5.8

3.26 Tualatin Basin

Eight stream reaches were photographed in the Tualatin River Basin in May 2007; seven of these were again photographed in 2012 and 2017. The length of each stream photographed varied from about three to four miles.

Results of the landscape monitoring showed that there is a wide range of conditions among the eight stream reaches assessed. In general, Bledsoe and Wapato creeks had the least amount of landscape cover within 90 feet of the stream; Burris and McFee creeks had the most cover. Landscape conditions at Bledsoe Creek were dominantly grass/agriculture in all six bands, with no band having more than 17% trees. Bare agricultural land comprised between 3 to 18% of the landscape. Landscape conditions along Wapato Creek were highly variable, with grass/agriculture percentages ranging from 45 to 89%. Tree cover along Wapato ranged from 2 to 14% and bare agricultural land comprised between 0 and 35%. By contrast, the landscape of Burris Creek was more consistent among the six bands; grass/agriculture ranged from 35 to 47%, tree cover ranged from 39 to 44% and bare agricultural land did not exceed 4%; the riparian index score for this stream was 51.8. McFee Creek had tree cover that ranged from 56 to 76%, grass/agriculture from 12 to 31% and bare agricultural land at 4% or less. Wapato Creek's RIS increased by almost 11% because of the large decrease in bare/ag. cover; mostly from 2007 to 2012.

A qualitative assessment of the aerial photographs provides additional information on the condition of the stream reaches. Bledsoe Creek's landscape condition was partly influenced by the fact that the entire observed reach had been ditched. The Wapato Creek reach was ditched for about 60% of its length and appeared to be used as an irrigation conveyance. Hill Creek was ditched for about 30% of the reach and appeared to be used as an irrigation conveyance. Burris Creek, by comparison, was only about 10% ditched through the reach observed. The Council Creek reach is partially bordered by a highway, and many ponds and swampy areas border the channel in this area. This stream was only photographed in 2007. The Davis Creek reach was about 10% ditched, with five large ponds formed on the channel by dams. This reach is interesting because it is a combination of engineered channels and relatively untouched channels and

riparian areas. The McFee and West Fork Dairy creeks were generally in good shape with little disturbance of their riparian areas.

Stream	2007	2012	2017	%change
Bledsoe Creek	31.35	31.07	31.22	---
Burris Creek	51.77	52.54	52.57	1.5
Davis Creek	43.76	44.88	44.92	2.7
Hill Creek	40.85	41.43	39.65	-2.9
McFee Creek	57.91	57.92	57.94	---
Wapato Creek	31.97	34.53	35.46	10.9
WF Dairy Creek	40.51	41.75	41.82	3.2

3.27 Umatilla Basin

Streams in the Umatilla were fairly diverse. The photos of the streams were originally taken on May 24 or 25, 2005 and then again in 2015. Six streams were monitored in this basin.

East Birch Creek had the highest percentage of trees, with up to 51% in the 30R band. Slusher Canyon had the lowest, with no trees visible in the reach examined. Slusher also had the most-bare agricultural land, with 30% in the 60R band. Wildhorse Creek also had significant amounts of bare agriculture, with 28% in the 90R band. In contrast, Wildhorse's 30-foot bands had 42 and 45% tree coverage.

A small percentage (<10%) of East Birch had visibly eroding streambanks. Approximately 20% of Wildhorse Creek had eroding streambanks. During the 2015, ground truthing along Wildhorse areas of riparian planting were noted where weed cloth had been used. Most of these areas seemed only partially vegetated, with maybe a 25% survival of plants. The channel of Slusher Canyon showed extensive erosion due to excessive sediment entering the channel from numerous debris torrents and gullies emanating from adjacent hillslopes. This reach had the most extensive upland erosion of any of the streams previously examined.

Nearly all of the Gerking Creek reach examined had been ditched. Restoration riparian plantings were present along one stretch of the creek, where weed cloth had been placed in multiple rows alongside the channel. It should be noted that the weed cloth was classified as "bare agriculture" unless one of the dots actually fell on a tree within the weed cloth.

Riparian index scores ranged from a low of 28.47 for Slusher Canyon to 43.22 for East Birch Creek. The other streams had scores that ranged from 30.32 to 37.89. There was very little change in RIS from 2005 to 2015.

Stream	2005	2015	%change
E. Birch Creek	43.22	43.00	---
Gerking Creek	30.32	30.35	---
Little Butter Creek	33.61	33.58	---
Owings Creek	35.33	35.41	---
Slusher Canyon	27.47	27.61	---
Wildhorse Creek	37.89	97.95	---

3.28 Umpqua Basin

Eleven different stream reaches were initially monitored in the Umpqua Basin in 2006; ten were then also photographed in 2011 and 2016. These streams had a wide range of characteristics, with riparian index scores ranging from 38 (Marsters Creek) to 61 (Flournoy Creek). All streams, except Marsters Creek, had high percentages of trees in the 30-foot bands. Days and Elgarose creeks had the highest percentage of trees in any single band, with 83% in the 30L and 30R bands, respectively. None of the streams had large percentages of bare land. The greatest percentage of bare land was around 5% in the 30L band of South Myrtle Creek.

Of the stream reaches examined, Days and Yoncalla creeks had the most stable channels; all of the streams had areas with visibly eroding banks. Three gullies starting in pastured ground leading into the channel were visible on Calapooya Creek. The upper section of this stream had some unstable banks and a few large sandbars were visible. Champagne Creek's upper 15% showed significant bank erosion and about half the reach observed showed indications of excessive sediment in the channel. Elgarose Creek had relatively minor amounts of eroding streambanks with few mid-channel bars. Flournoy Creek's channel conditions were much like Elgarose, except that there was a mid-channel pond in the upper section and one area with active rill erosion. The lower 50% and upper 10% of Marsters Creek showed severe bank erosion. In the 2006 photos, it appeared bank erosion was ongoing, but in the 2016 photos, there was renewed grass growth that may have started to heal the erosion scars. Increased grass/ag. and tree cover explained the increased RIS for this stream. Overall, the RIS for all the streams monitored in the Umpqua were relatively high, except for Marsters Creek.

Stream	2006	2011	2016	%change
Bennet Creek	56.20	56.21	55.87	---
Calapooya Creek	57.89	56.89	57.57	---
Champagne Creek	58.88	59.05	59.12	---
Days Creek	57.70	58.11	58.29	1.0
Elgarose Creek	58.59	58.39	58.29	---
Fluornoy Creek	61.02	61.24	61.00	---
Marsters Creek	37.56	40.16	40.60	8.1
Pass Creek	53.44	54.75	54.73	2.4
Rice Creek	56.97	56.77	56.26	-1.2
S Myrtle Creek	57.97	58.77	57.60	---

3.29 Upper & Southern Willamette Basin

Seven stream reaches were monitored in the Upper Willamette Basin with photos taken in 2006, 2011, and 2016. Riparian index scores ranged widely from a low of 38 for Fox Hollow Creek to a high of 61 for Spencer Creek. Poodle Creek had the highest percentage of trees in any single band with 78%, while Ferguson Creek had the lowest with 11% in one band. Flat Creek had the most-bare agricultural land, with percentages between 3 and 7.

Ferguson, Flat, and Fox Hollow creeks all had been at least partially straightened. Flat Creek was ditched and dammed with narrow ditched channels separated by ponds formed by dams. This stream also had large amounts of aquatic vegetation in the ponded areas. Streambanks along Flat Creek did not appear to be eroding, though bank erosion was evident on Coyote, Ferguson, Poodle, and the South Fork Siuslaw. The bank erosion on Coyote Creek was limited to a few areas with gullies, while there is a potential for more erosion because a road was clearly preventing lateral migration of the channel. Spencer Creek appeared to have had bank erosion in the past, but as of 2006, lateral bars in the channel were heavily vegetated and the streambanks had stable terraces.

Riparian index scores improved significantly (i.e. 4% or more) in four of the streams. Much of the improvement was seen between 2006 and 2011, though upward trends continued into 2016. Poodle Creek was the only stream with a declining score, due mostly to loss of tree cover. Coyote Creek had more mature riparian vegetation in 2016 than 2006, resulting in an increase in tree percentage, except on the right 60 and 90-foot bands. Ferguson Creek also had more mature riparian vegetation and less bare agricultural land because many fields that had been bare in 2006 were cultivated in 2011 and 2016. Riparian vegetation had not matured noticeably on Flat Creek but one ditched reach showed improved vegetation cover. There was a significant increase in tree cover and a decrease in bare agricultural land. Tree cover also improved significantly on Fox Hollow Creek.

Stream	2006	2011	2016	%change
Coyote Creek	46.98	49.18	49.31	5.0
Ferguson Creek	41.96	43.82	45.09	8.8
Flat Creek	41.87	44.48	44.20	5.6
Foxhollow Creek	37.96	39.98	41.73	9.9
Poodle Creek	55.24	53.41	54.15	-1.9
SF Siuslaw River	58.18	57.80	58.04	---
Spencer Creek	60.82	60.54	60.57	---

3.30 Walla Walla Basin

Three streams were assessed in this basin, with photos taken in 2007, 2012, and 2017. Tree cover on Swartz was very low with no band having more than 10% trees. Swartz Creek did not have any bare land, though bare/agriculture percentages ranged from one

to 14%. Couse and Birch had similar tree coverage with percentages ranging from 14 to 82%.

- Birch Creek: The 30-foot bands of this stream were mostly fenced off to restrict livestock access. Tree cover dominates the 30-foot bands. One section of the reach had corrals located in the 60 and 90-foot bands.
- Couse Creek: An active quarry was observed impinging on the 30-foot band; we contacted DOGAMI Mined Land Reclamation to alert them of this activity. The upper 100 feet of the reach has multiple active sand bars with little vegetative cover. The RIS dropped due to both a decrease in tree cover in all bands and an increase in bare/ag. cover.
- Swartz Creek: The lower 100 feet of this reach was undergoing active riparian planting within 60 feet of the channel. The middle 2,500 feet of the reach also had active riparian planting but not as densely as the lower section. The stretch in between these two areas was mostly channelized.

Stream	2007	2012	2017	%change
Birch Creek	50.40	50.46	50.02	---
Couse Creek	50.05	49.69	46.05	-8.0
Swartz Creek	30.85	31.44	30.93	---

3.31 Willow Creek Basin

Three streams were monitored in this basin with photos taken in 2007, 2012, and 2017. These were Hinton, Rhea, and Willow creeks. These streams had similar landscape conditions resulting in similar riparian index scores. Willow Creek had the highest riparian index score with 31.80, while Hinton had the lowest with 26.31. Hinton Creek had the largest percentage of bare/agriculture with one band at 33% and none below 11%. Both Rhea and Willow had between one and 6% bare/agricultural. No stream had more than 3% tree cover in any band.

Hinton Creek: Mostly ditched with about six small impoundments; two areas flow through fenced, partially bare dirt corrals that were present in all the photos. The lower 25% appears to be regaining some sinuosity. One diversion is present putting flow into a channel than runs parallel to the stream. From 2012 to 2017, this stream had a significant increase in its RIS mostly due to change in land cover from bare/ag. to grass/ag. in the 60 and 90-foot right bands. Bare/ag. cover was reduced by about 20% in these two bands.

Rhea Creek: Upper reach has a few diversions and many cattle with direct access to stream. Most of this area has been channelized, but the lower half of the reach appears to have a mostly natural channel.

Willow Creek: Most of this reach has been channelized with four diversions visible. The uppermost one has a severely eroded channel adjacent to it; algae or other aquatic vegetation is visible in many stretches of the creek.

Stream	2007	2012	2017	%change
Hinton Creek	26.31	26.31	28.23	7.3
Rhea Creek	30.29	29.83	30.11	---
Willow Creek	31.80	32.13	32.27	1.5

3.32 Yamhill Basin

Six streams were monitored in this basin; photographs were taken in 2003, 2008, and 2013. The Yamhill streams analyzed for this report all showed tree and shrub densities of at least 65% within thirty feet of the stream, with most streams (except Berry Creek) having tree and shrub densities in excess of 80%. Berry Creek had the most grass/agriculture cover; ranging from around 20% thirty feet from the stream to over 60% at the 90-foot bands. Four of the streams also had tree/shrub densities of 70% or greater within 60 feet off the stream. Very little bare ground was evident in these photographs. Millican Creek had the greatest tree cover ranging from 73 to over 90%.

From 2008 to 2013, only Panther and Turner creeks showed notable change in their riparian index scores, with Panther having what we could consider a significant change. The reduction in Panther's score was mostly the result of loss of tree cover, particularly in the 60-foot right side band. Turner Creek also had extensive loss of tree cover in the 60 and 90-foot right bands, plus an increase in bare agricultural cover. Springbrook Creek photographs showed urbanization encroaching on the stream corridor but this was more evident from 2003-2008 than 2008-2013.

Stream	2003	2008	2013	% change
Berry Creek	46.18	46.12	45.46	-1
Dupee Creek	53.81	52.02	52.20	---
Millican Creek	65.5	64.71	64.85	---
Panther Creek	54.64	54.51	52.12	-4
Springbrook Creek	61.78	59.01	58.74	---
Turner Creek	63.30	63.25	61.43	-3

4.0 Use of Reference Sites for Calculating Riparian Index Scores

In 2012, we began a project to find riparian reference sites within basins being photographed to compare land cover to monitored reaches. We had mixed success in finding appropriate reference sites but some basins had sufficient coverage to compare with the monitored streams. There is a potential for expanding this project to include most – or possibly all – the basins monitored, but finding and characterizing reference sites is time consuming. We initially did some of this work in conjunction with ground truthing but it made scheduling field work very difficult.

Having reference sites to compare with RIS is useful to see how much change in land cover condition could be expected. It is also valuable to compare with places where juniper removal projects have lowered RIS over time, to see if the lowered RIS more accurately represent expected land cover.

Reference sites were identified by finding Federal land with 'exclusion areas,' where livestock and human use was restricted or prevented and other protected areas like parks. These sites were then visited and the land cover was measured by duplicating the air photo interpretation method on the ground. Transects were done moving away from the stream channel; one point was chosen at random within 30 feet, between 30-60 feet, and between 60-90 feet of the stream bank. This was done every 50 feet through the reference site. The percentage of each cover type found was recorded and then assumed to be representative of a reach with 2000 data points. Each reference site was also identified using GPS coordinates in case replication in the future is warranted.

The following is a discussion of the results of the reference site comparisons for the Goose and Summer Basin. This basin had the most complete set of reference sites developed for this project.

Four reference streams were identified in this basin as having reference reaches. One of the reference streams – Drake Creek – was also a stream with a monitored reach. The Willow Creek reference site was found to be comparable to two monitored streams, based on its size and position in the basin. The Willow Creek reference RIS was calculated to be 47.4. The Twelvemile Creek reference site was found to be comparable to one monitored stream. This reference site had an RIS of 46.7.

The Drake Creek reference site was found to be only comparable to the monitored reach of Drake Creek and its RIS was 54.7. The Crooked Creek reference site was found to be comparable to one monitored reach and Crooked Creek's RIS was 49.2. The following table shows the reference site RIS along with the monitored stream's RIS from 2016:

Monitored Stream	2016 RIS	Reference RIS	%difference
Moss Creek	39.18	47.4	- 17
Green Creek	41.65	47.4	- 12
Bauer Creek	30.97	49.2	- 37
Drake Creek	45.18	54.7	- 17
Twentymile Creek	33.36	46.7	- 29

It's clear from this table that there is a wide range of differences between measured and reference RIS in this basin. Results for Moss and Green and Drake creeks show that these streams are closer to their ideal RIS than Bauer and Twentymile.

At least some reference site information has also been collected for the Mid-Deschutes and Yamhill basins.

5.0 Statewide Observations - Landscape Cover Change, 2003-17

Most of the information generated from this monitoring project was intended to be basin-specific because the differences in environmental setting, agricultural management, and population in each basin. However, it is interesting to look at the project as a whole for what it tells us about changes in land cover throughout the state. By aggregating the results of the monitoring, we see the following changes in land cover in agricultural land from 2003 through 2017:

- Number of streams monitored 2003-2017: 203
- Number/percentage of streams with improved RIS: 80/39.4%
- Number/percentage of streams with lowered RIS: 59/29.1%
- Number/percentage of streams with <1% change in RIS: 64/31.5%

Of the streams with either increased or decreased RIS, 28 of each had what we consider 'significant' (>4%) change, which is 35% of the improved ones and 47% of the lowered ones. Also note was that some of the significant decreased RIS were the result of intentional juniper removal; a practice considered to be part of stream restoration. Some of the largest decreases in RIS were also the result of storm events causing increased channel erosion. This was apparent on Rock Creek in the John Day Basin, where the RIS dropped by 16.3% and some other streams like the SF Coquille where the RIS declined by 9.3%; mostly due to streambank failures. There is also the possibility that upstream management led to the lateral erosion in the reach monitored but we did not collect data that would substantiate this. Ruckles Creek, in the Powder Basin, had the largest decline in RIS (16.9%) that could be explained by agricultural management because fields were being tilled up to the edge and sometimes through the channel. The basin with the greatest amount of land cover improvement was either the Upper/South Willamette or the South Santiam. In the Upper/South Willamette, four of the seven streams monitored improved by 5% or more and only one got worse. In the South Santiam, seven of the nine streams monitored improved – four of these improving 4% or more – and two got worse. The basin with the worst change in land cover over time was the Clackamas, where all five streams had declining RIS - three with 4% or more declines.

Considering all this, it does appear that in general, land cover conditions have improved statewide since this project began. However, the causes for improvement are not always due to changes in land management. As noted for the Inland Rogue and Upper Willamette Basins, among others, some land cover improved because it was healing from large storm events that occurred in the late 1990's. Some riparian growth may have also resulted from wetter conditions – particularly spring rains – that happened the years before the stream was photographed. However, the 15-year period of 2003 through 2017 also had some very dry years; climactic effects may have cancelled themselves out.

6.0 Potential Future Applications

This project was intended to take a passive look at changes in land cover along streams in agricultural lands throughout the state. The 15-year window of the project provided a good record of riparian conditions for 203 streams, and we still have the option of tracking some or all of these streams in the future. It may be valuable to continue monitoring a sub-set of the streams in this project to see if they continue to improve, or to see if ones that have declined over time start to improve. Releasing this report may prompt some entities, such as watershed councils and soil and water conservation districts, to begin riparian restoration in areas we've identified as being deficient. As of this writing the State of Oregon is also acquiring aerial imagery of the entire state that would be of sufficient quality for us to use to continue monitoring these streams, making such an undertaking economically feasible.

Another possible future use of the aerial photos taken for this project is in modeling potential shade and enforcement of riparian rules. As described previously in section 2.7 of this report, near-infrared air photos can be used to map the actual riparian area. This could be valuable when there are questions about how wide a stream set-back needs to be to protect riparian vegetation. Because we can tell where riparian vegetation would actually grow, it can also help when assessing the potential of a stream to meet a temperature standard. Figure 8 is an example of an infrared image showing the extent of the riparian area.

Figure 8: Near-infrared photo of Thirtymile Creek, Lower John Day Basin, taken in 2017 and shown at a scale of 1:800. The red area along the stream shows where vegetation is actively growing and is the actual riparian zone. The width of the riparian zone in this reach ranges from 8 to 80 feet.

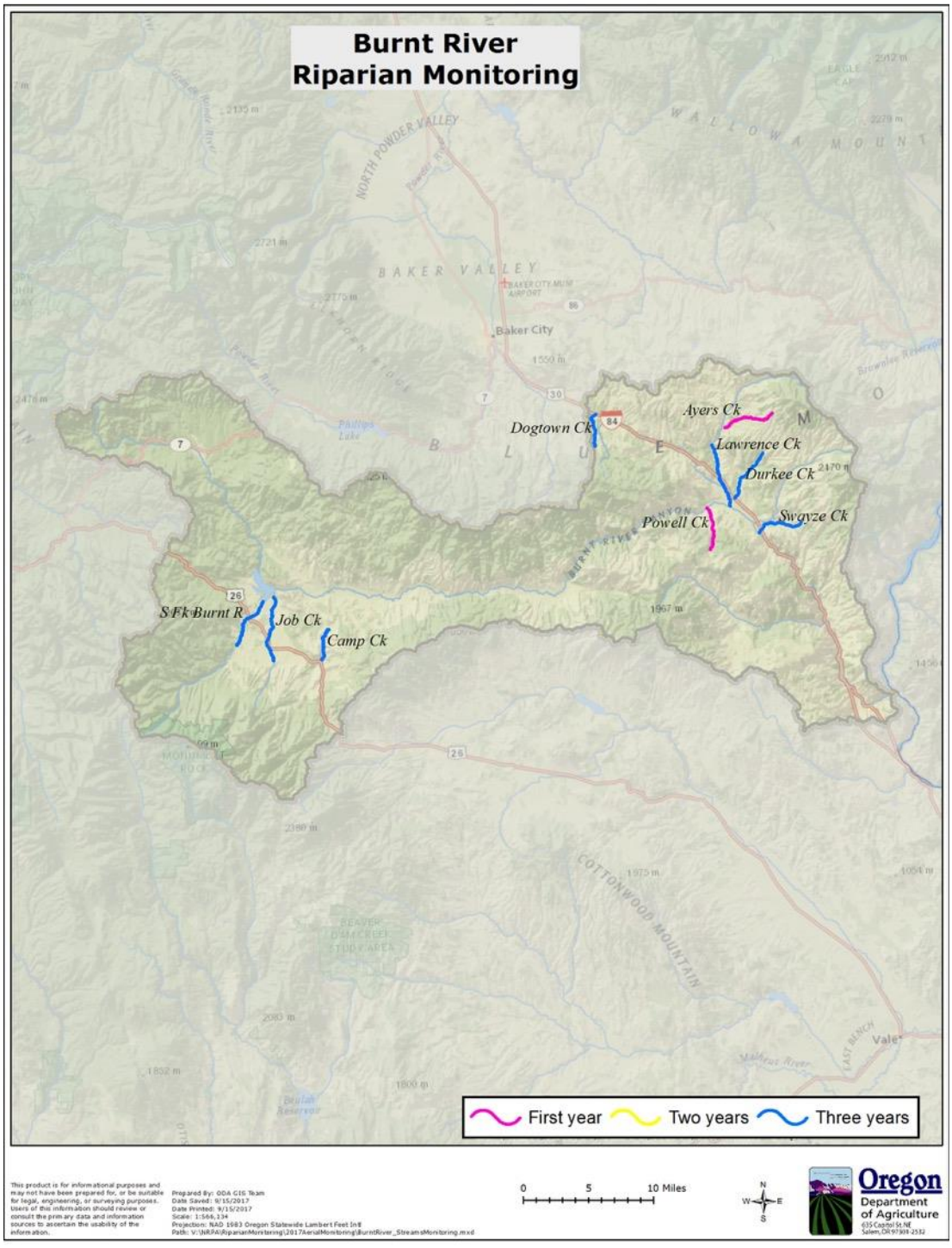
7.0 Conclusions

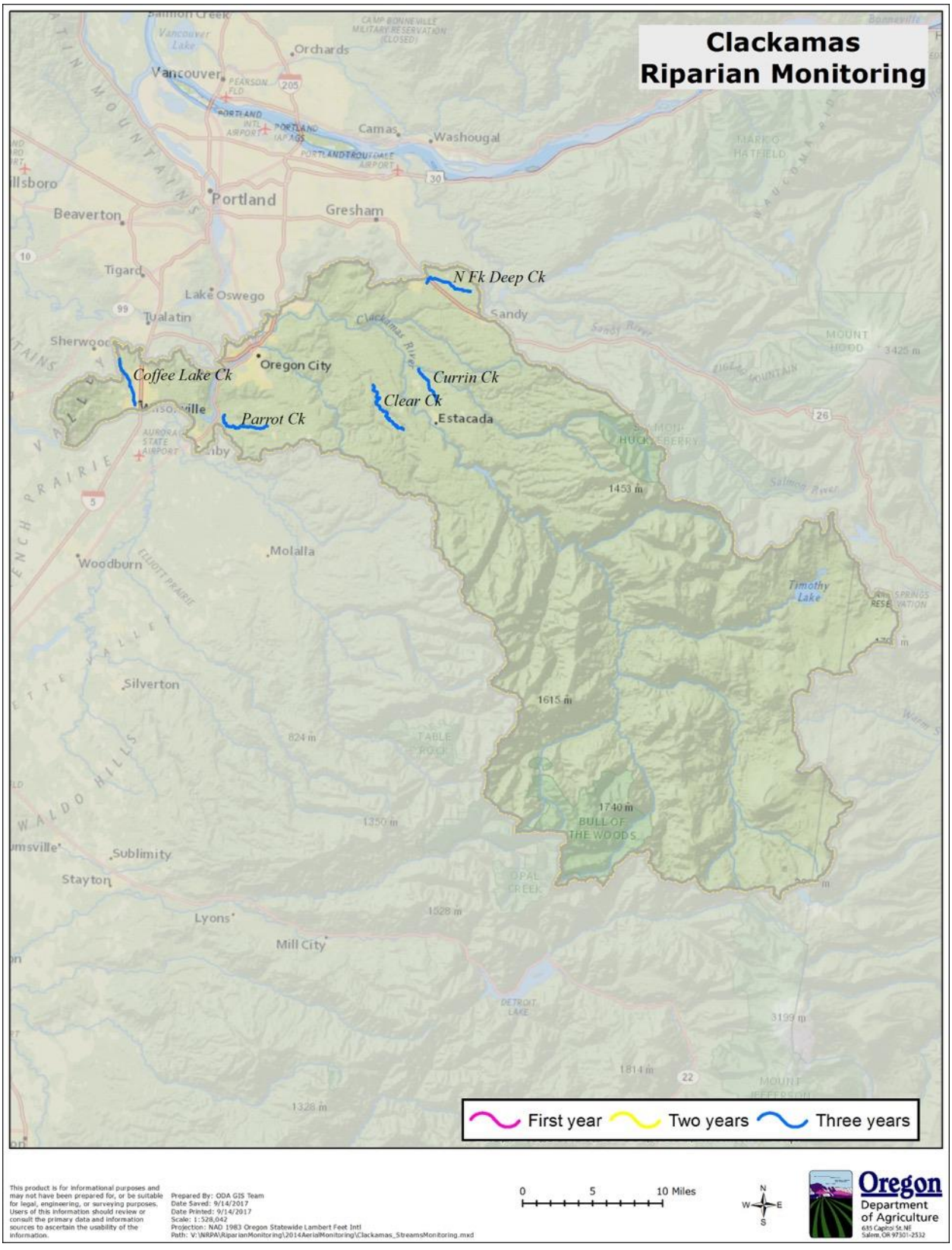
This report presents the results of the Oregon Department of Agriculture's landscape monitoring project that ran from 2003 through 2017. The objective of this project was to provide visual data for establishing trends in riparian landscape condition.
The project's goals were to:

1) Demonstrate an efficient way to acquire orthorectified aerial photographs;
2) Develop a practical way to analyze riparian conditions using aerial photographs, and;
3) Initiate a monitoring program that could determine statewide riparian trends and conditions in agricultural lands over a five-year cycle.

The goals of this project were met, though changes in technology made some aspects of the goals less relevant over time. High resolution aerial imagery became widely available starting in 2013, lessening the value of the imagery we were obtaining. When needed, this also made it easier for water quality staff to do their own riparian assessments. Unanticipated stream restoration activities – namely juniper removal – also complicated our evaluation of riparian conditions. Our experiments in using reference sites to identify natural riparian conditions showed how valuable this is towards comparing expected to existing riparian cover, but time and resources severely limited the amount of reference areas we were able to analyze. We would definitely recommend that any future continuation or extension of this project include reference site information.

Appendix A: Map Locations of Monitored Stream Reaches


Burnt River
Riparian Monitoring
Baker City
Dogtown Ck
Ayers Ck
Lawrence Ck
Durkee Ck
Powell Ck
Swayze Ck
S Fk Burnt R
Job Ck
Camp Ck
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture


Clackamas
Riparian Monitoring
N Fk Deep Ck
Coffee Lake Ck
Parrot Ck
Clear Ck
Currin Ck
Estacada
Oregon City
Sandy
Portland
Vancouver
Beaverton
Gresham
Tigard
Lake Oswego
Tualatin
Sherwood
Molalla
Woodburn
Silverton
Sublimity
Stayton
Lyons
Mill City
Camas
Washougal
Orchards
Timothy Lake
1453 m
1615 m
1740 m
824 m
1350 m
1528 m
1814 m
3199 m
1328 m
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
Prepared By: ODA GIS Team
Date Saved: 9/14/2017
Date Printed: 9/14/2017
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Projection: NAD 1983 Oregon Statewide Lambert Feet Intl
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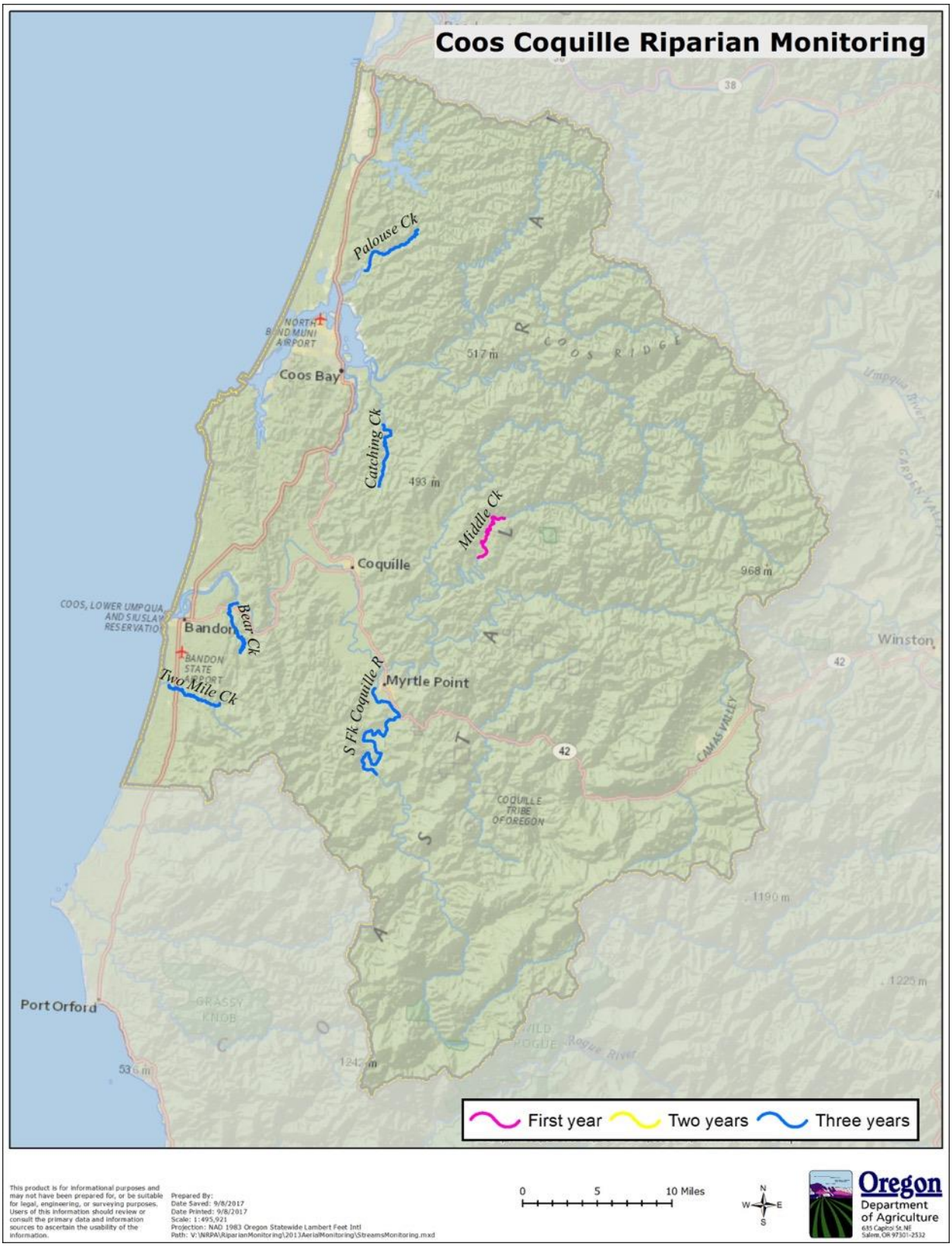
Coos Coquille Riparian Monitoring
Palouse Ck
Catching Ck
Middle Ck
Bear Ck
Two Mile Ck
S Fk Coquille R
Coos Bay
Coquille
Bandon
Myrtle Point
Port Orford
Winston
COOS, LOWER UMPQUA AND SIUSLAW RESERVATION
COQUILLE TRIBE OF OREGON
COOS RIDGE
517 m
493 m
968 m
1190 m
1225 m
First year
Two years
Three years
0
5
10 Miles
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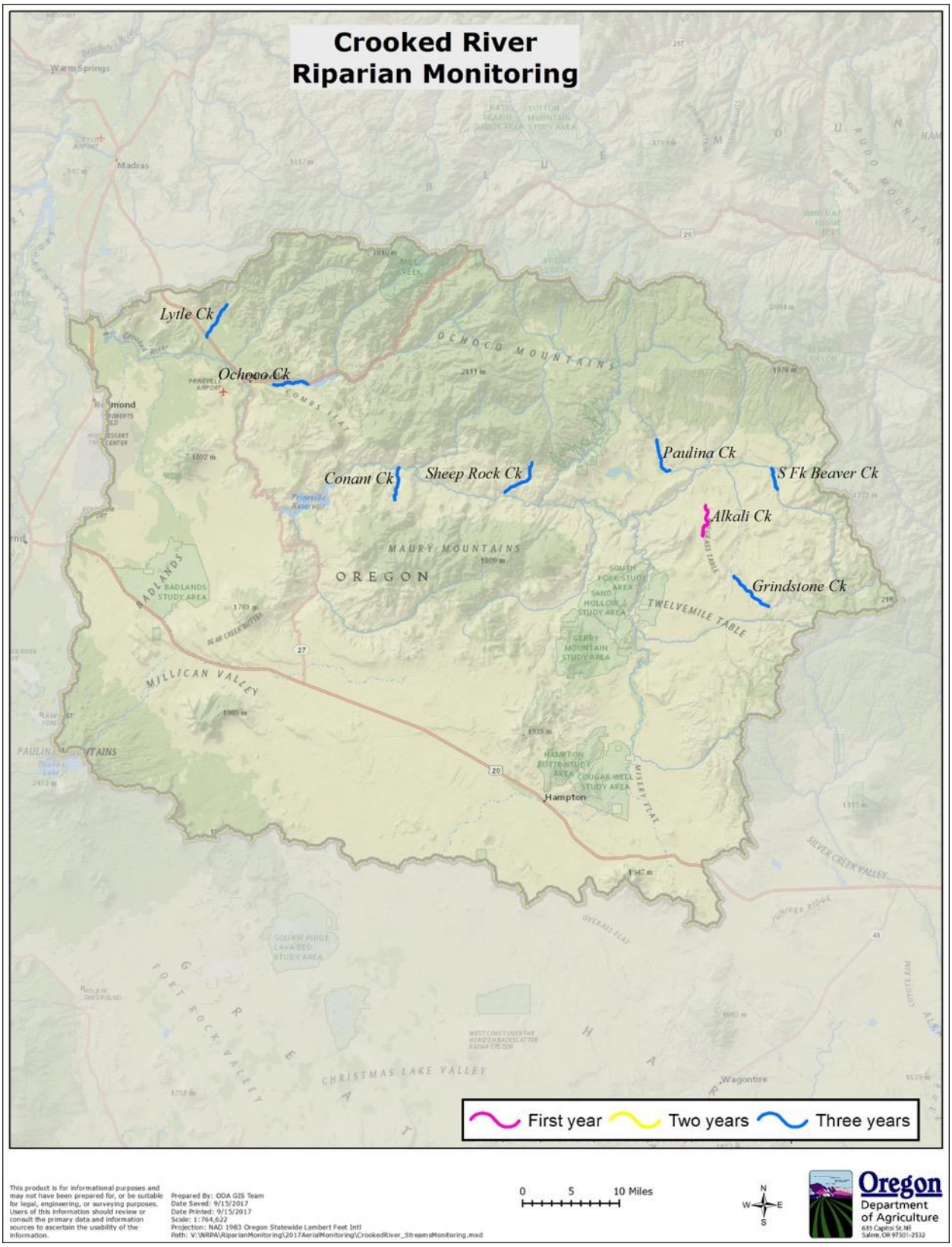
Oregon
Department of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532


Crooked River
Riparian Monitoring
Lytle Ck
Ochoco Ck
Conant Ck
Sheep Rock Ck
Paulina Ck
S Fk Beaver Ck
Alkali Ck
Grindstone Ck
OCHOCO MOUNTAINS
MAURY MOUNTAINS
OREGON
MILLICAN VALLEY
CHRISTMAS LAKE VALLEY
Warm Springs
Madras
Prineville Reservoir
Hampton
Wagontire
First year
Two years
Three years
0 5 10 Miles
N
W E
S
Oregon
Department
of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
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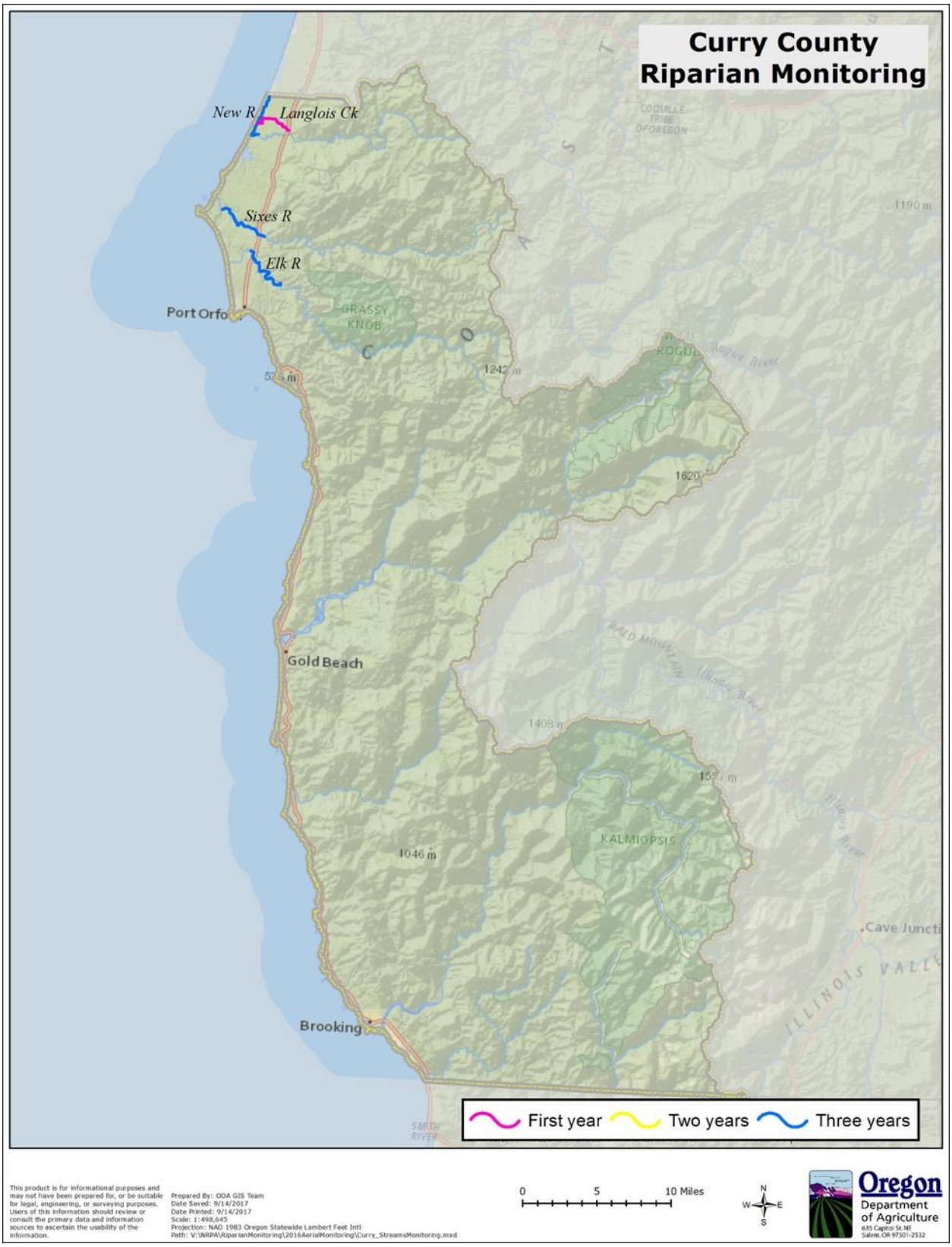
Curry County
Riparian Monitoring
New R
Langlois Ck
Sixes R
Elk R
Port Orfo
GRASSY KNOB
Gold Beach
Brooking
KALMIOPSIS
ROGUE
1190 m
1242 m
1620
1408 m
1046 m
Cave Junct
ILLINOIS VALLEY
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532
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Goose and Summer Lakes
Riparian Monitoring
GREAT SANDY
DESERT
LAVA CAST
FOREST
La Pine
Hampton
97
20
Peters Ck
HOLE IN
THE GROUND
FORT ROCK VALLEY
H
A
R
Bridge Ck
Paisley
LAKE
ABERT
Moss Ck
Green Ck
Honey Ck
McDowell Ck
Bauers Ck
Augur Ck
Drake Ck
WARNER VALLEY
Lakeview
Drews Ck
Twenty Mile Ck
GOOSE
LAKE
First year
Two years
Three years
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Projection: NAD 1983 Oregon Statewide Lambert Feet Intl
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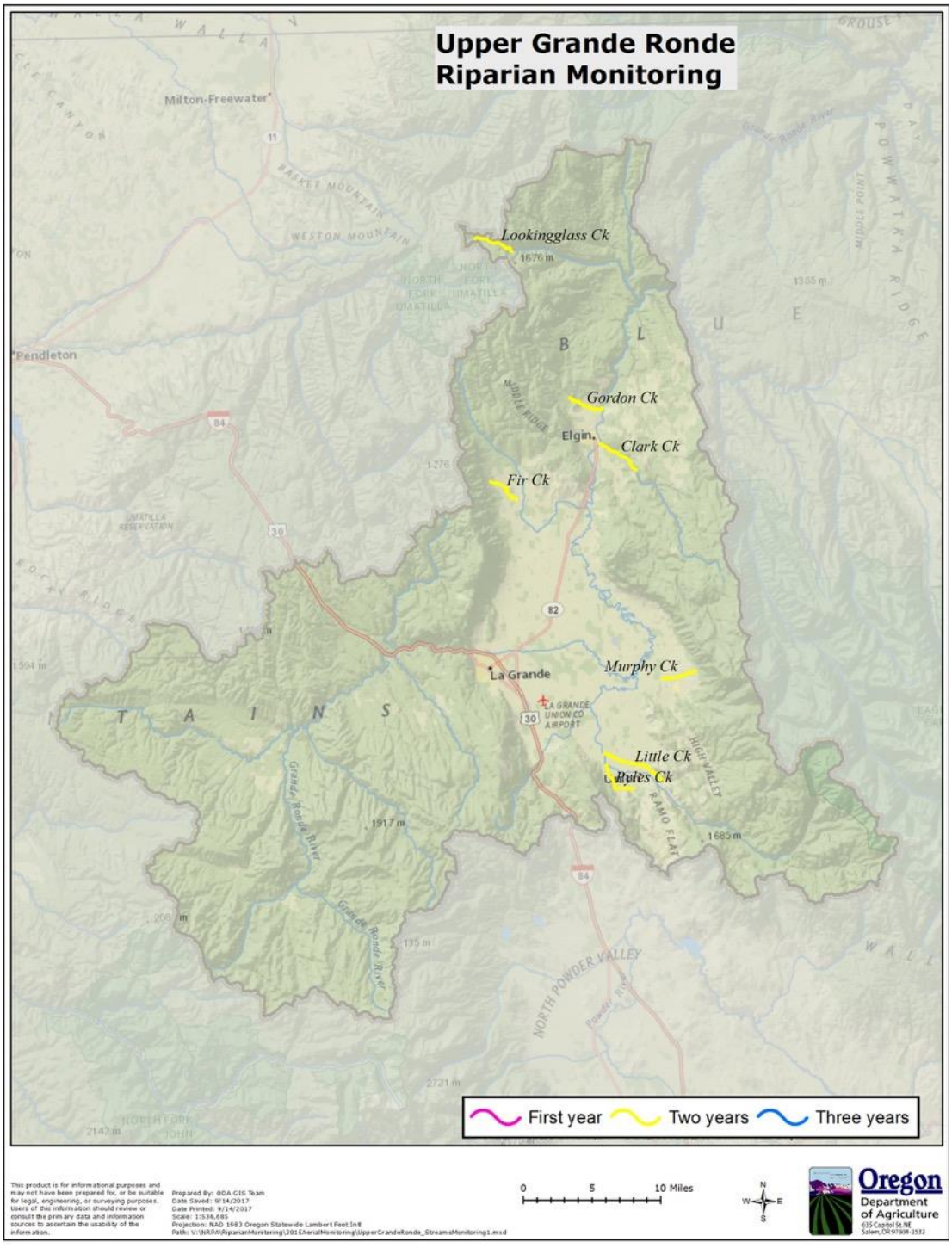
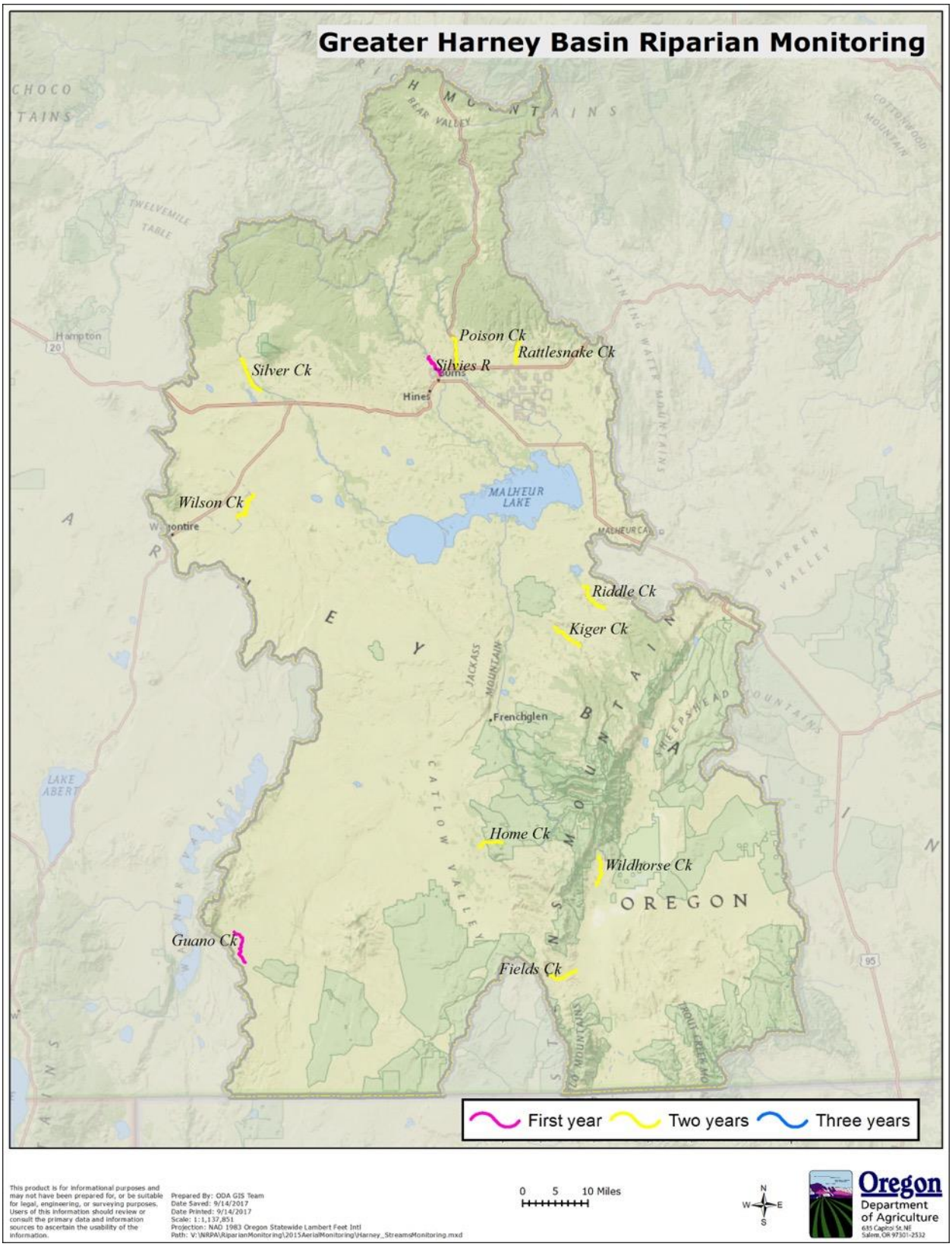
0 5 10 Miles
N
W E
S
Oregon
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532


Upper Grande Ronde
Riparian Monitoring
Milton-Freewater
Pendleton
La Grande
Elgin
Lookingglass Ck
Gordon Ck
Clark Ck
Fir Ck
Murphy Ck
Little Ck
Ryles Ck
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture


Greater Harney Basin Riparian Monitoring
Poison Ck
Rattlesnake Ck
Silvies R
Silver Ck
Hines
Wilson Ck
Riddle Ck
Kiger Ck
Frenchglen
Home Ck
Wildhorse Ck
Guano Ck
Fields Ck
OREGON
MALHEUR LAKE
HARNEY VALLEY
JACKASS MOUNTAIN
CATLOW VALLEY
SHEEPSHEAD MOUNTAINS
First year
Two years
Three years
0 5 10 Miles
N
W
E
S
Oregon Department of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
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Hood River
Riparian Monitoring
Stevenson
Cascade Locks
Hood River
Indian Ck
Odell Ck
Odell
Neal Ck
E Fk Hood R
Griswell Ck
East Fork Hood River
1511 m
WOOLLY HORN RIDGE
WAUCOMA RIDGE
BLOWDOWN RIDGE
MARK O HATFIELD
LOST LAKE BUTTE
MIDDLE MOUNTAIN
DUKES VALLEY
UPPER HOOD RIVER VALLEY
HOOD RIVER VALLEY
MOUNT HOOD
MOUNT HOOD
OLD MAID FLAT
ZIGZAG MOUNTAIN
Rhododendron
Government Camp
TOM DICK AND HARRY MOUNTAIN
BADGER CREEK
MILL CREEK RIDGE
Brooks Meadow Rd
35
26
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
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Riparian Monitoring
Pilot Rock
Heppner
Camas Cr
North and Middle Fork John Day
Middle John Day
Long Cr
Fox Cr
Rock Cr
26
Strawberry Cr
John Day
Upper Mainstem and South Fork John Day River
OCHOCO MOUNTAINS
BEAR VALLEY
TWELVEMILE TABLE
Hampton
20
Burns
First year
Two years
Three years
0 5 10 Miles
N
W
E
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Oregon Department of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
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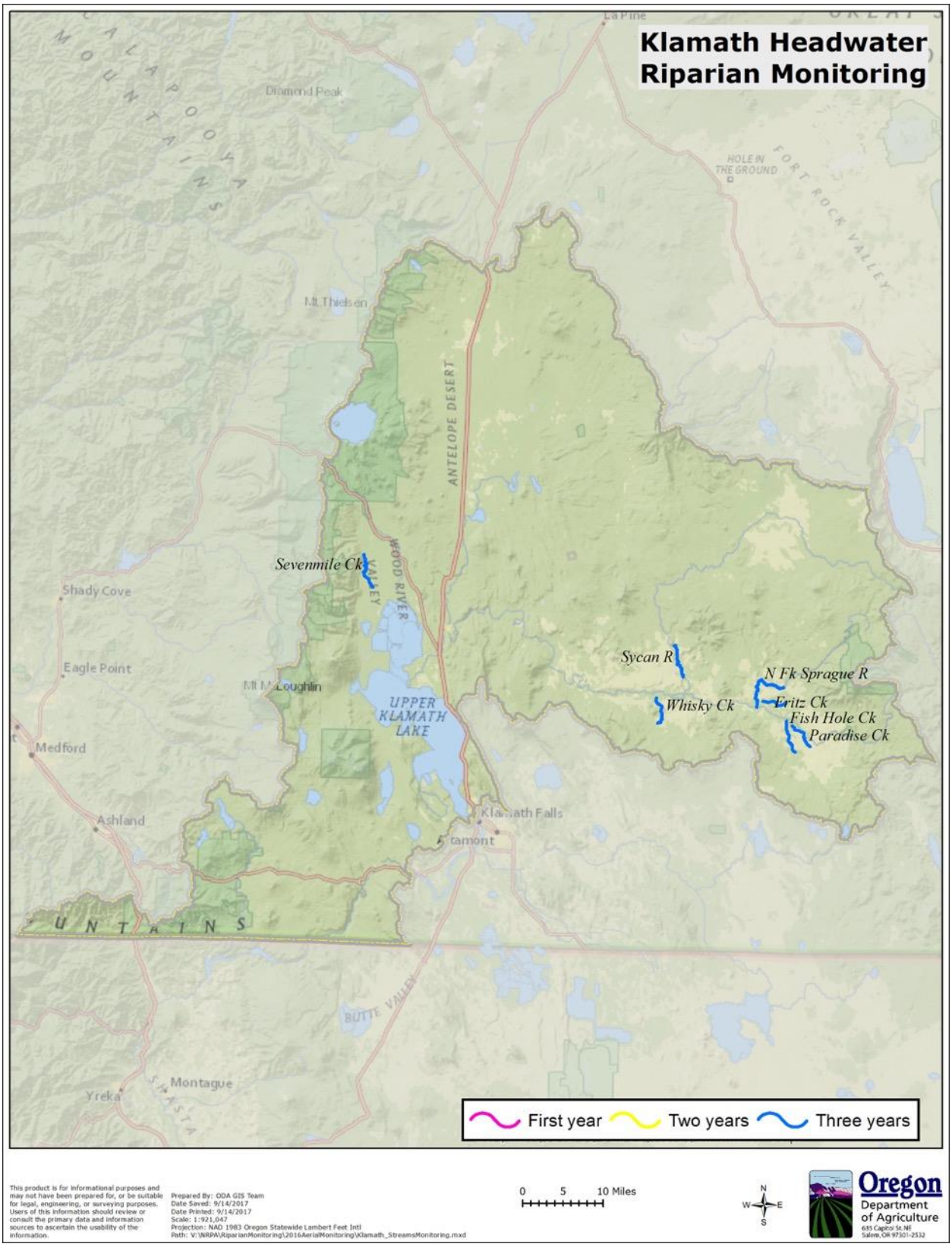
Klamath Headwater
Riparian Monitoring
La Pine
Diamond Peak
HOLE IN THE GROUND
FORT ROCK VALLEY
Mt Thielsen
ANTELOPE DESERT
Sevenmile Ck
WOOD RIVER VALLEY
Shady Cove
Eagle Point
Mt McLoughlin
UPPER KLAMATH LAKE
Medford
Ashland
Klamath Falls
Sycan R
N Fk Sprague R
Whisky Ck
Fritz Ck
Fish Hole Ck
Paradise Ck
BUTTE VALLEY
Montague
Yreka
First year
Two years
Three years
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
Prepared By: ODA GIS Team
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0 5 10 Miles
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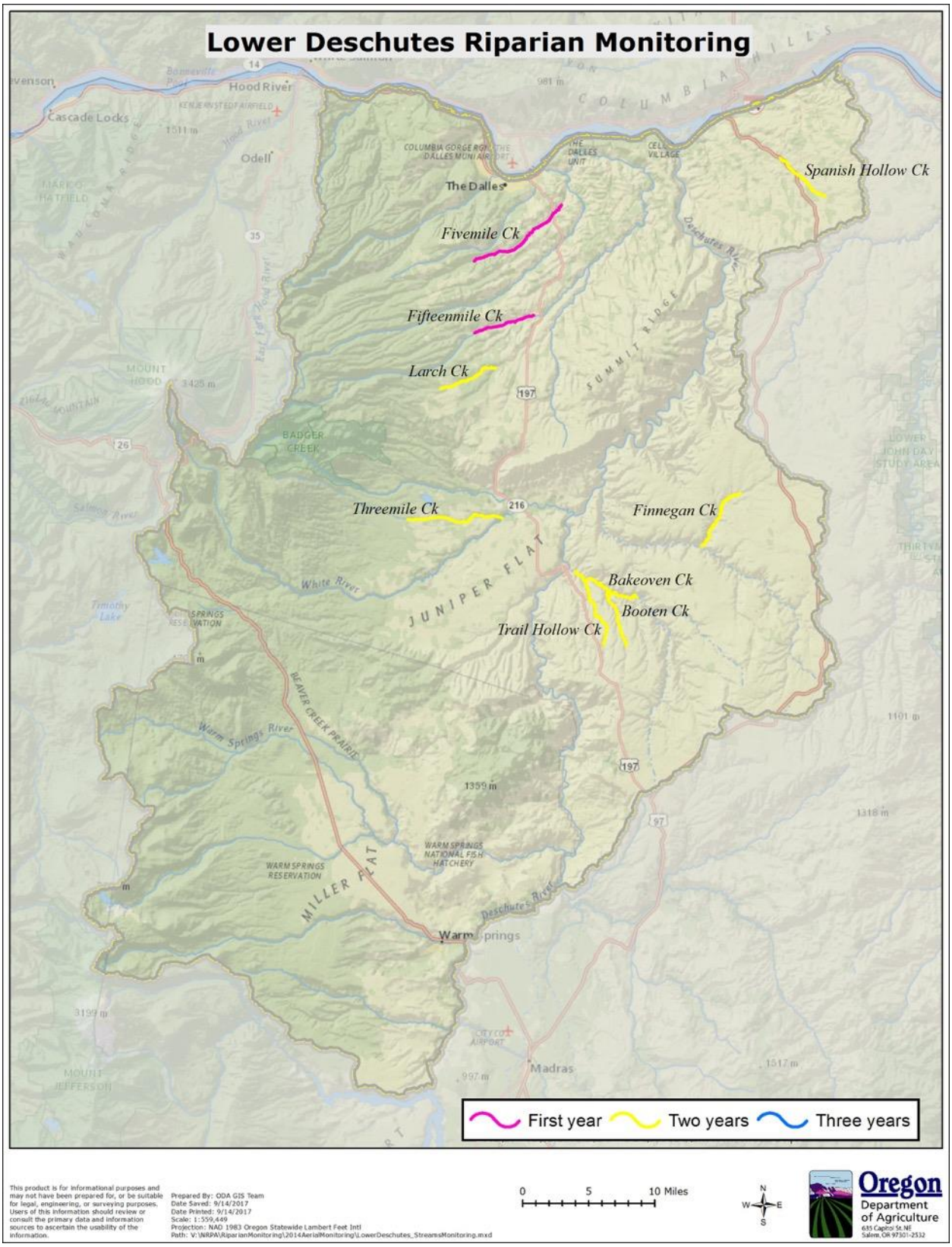
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532


Lower Deschutes Riparian Monitoring
Hood River
Cascade Locks
Odell
The Dalles
Spanish Hollow Ck
Fivemile Ck
Fifteenmile Ck
Larch Ck
Threemile Ck
Finnegan Ck
Bakeoven Ck
Booten Ck
Trail Hollow Ck
JUNIPER FLAT
SUMMIT RIDGE
BADGER CREEK
BEAVER CREEK PRAIRIE
MILLER FLAT
White River
Warm Springs River
Deschutes River
WARM SPRINGS RESERVATION
WARM SPRINGS NATIONAL FISH HATCHERY
Warm Springs
Madras
First year
Two years
Three years
0 5 10 Miles
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Prepared By: ODA GIS Team
Date Saved: 9/14/2017
Date Printed: 9/14/2017
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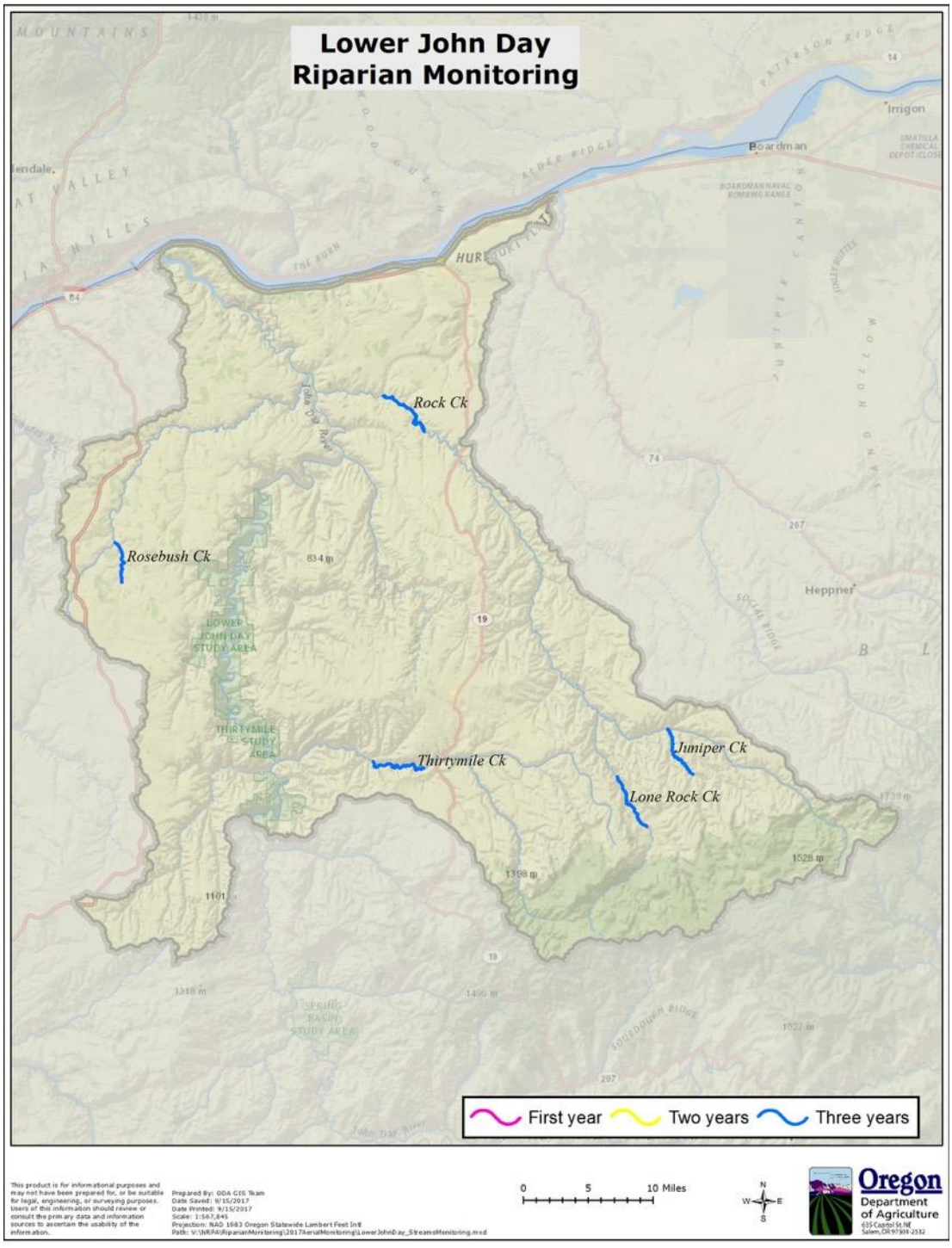
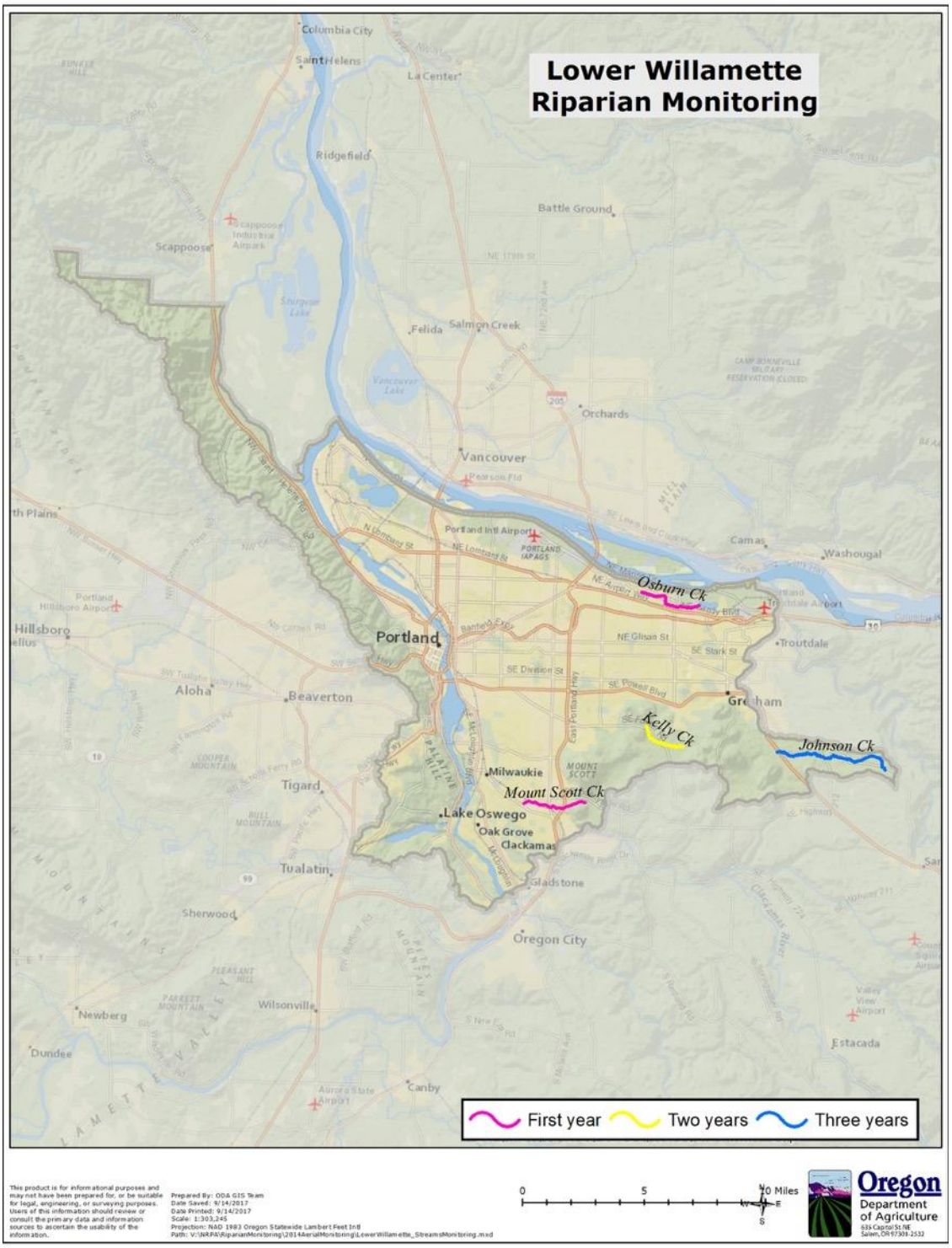
Oregon Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532


Lower John Day
Riparian Monitoring
Rock Ck
Rosebush Ck
Thirtymile Ck
Juniper Ck
Lone Rock Ck
Boardman
Irrigon
Heppner
First year
Two years
Three years
0
5
10 Miles
Oregon
Department
of Agriculture


Lower Willamette
Riparian Monitoring
Columbia City
Saint Helens
La Center
Ridgefield
Battle Ground
Scappoose
Felida
Salmon Creek
Orchards
Vancouver
Camas
Washougal
Portland Intl Airport
Osburn Ck
Hillsboro
Portland
Troutdale
Aloha
Beaverton
Gresham
Kelly Ck
Johnson Ck
Milwaukie
Mount Scott Ck
Tigard
Lake Oswego
Oak Grove
Clackamas
Tualatin
Gladstone
Sherwood
Oregon City
Newberg
Wilsonville
Dundee
Estacada
Canby
First year
Two years
Three years
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Prepared By: ODA GIS Team
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Date Printed: 9/14/2017
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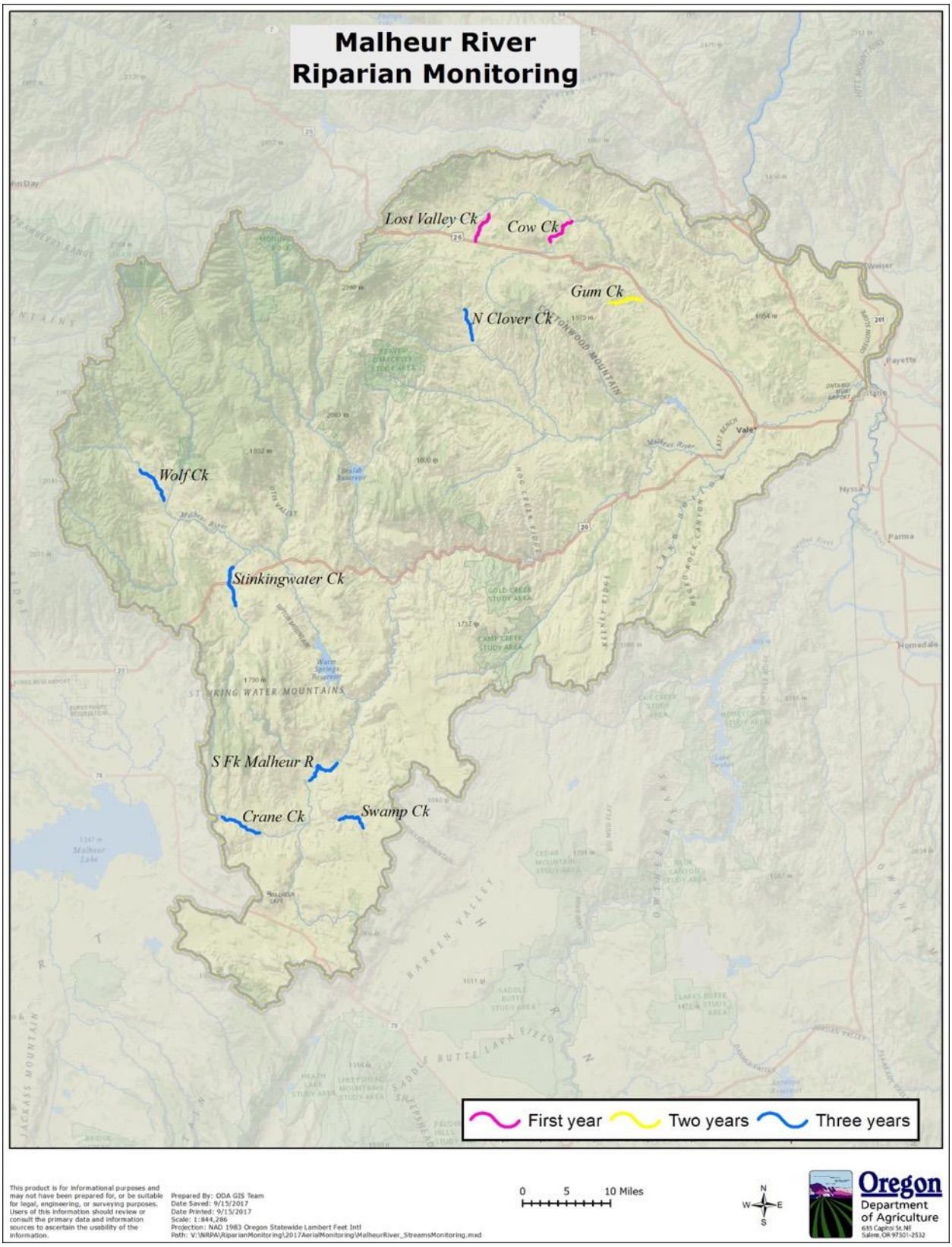
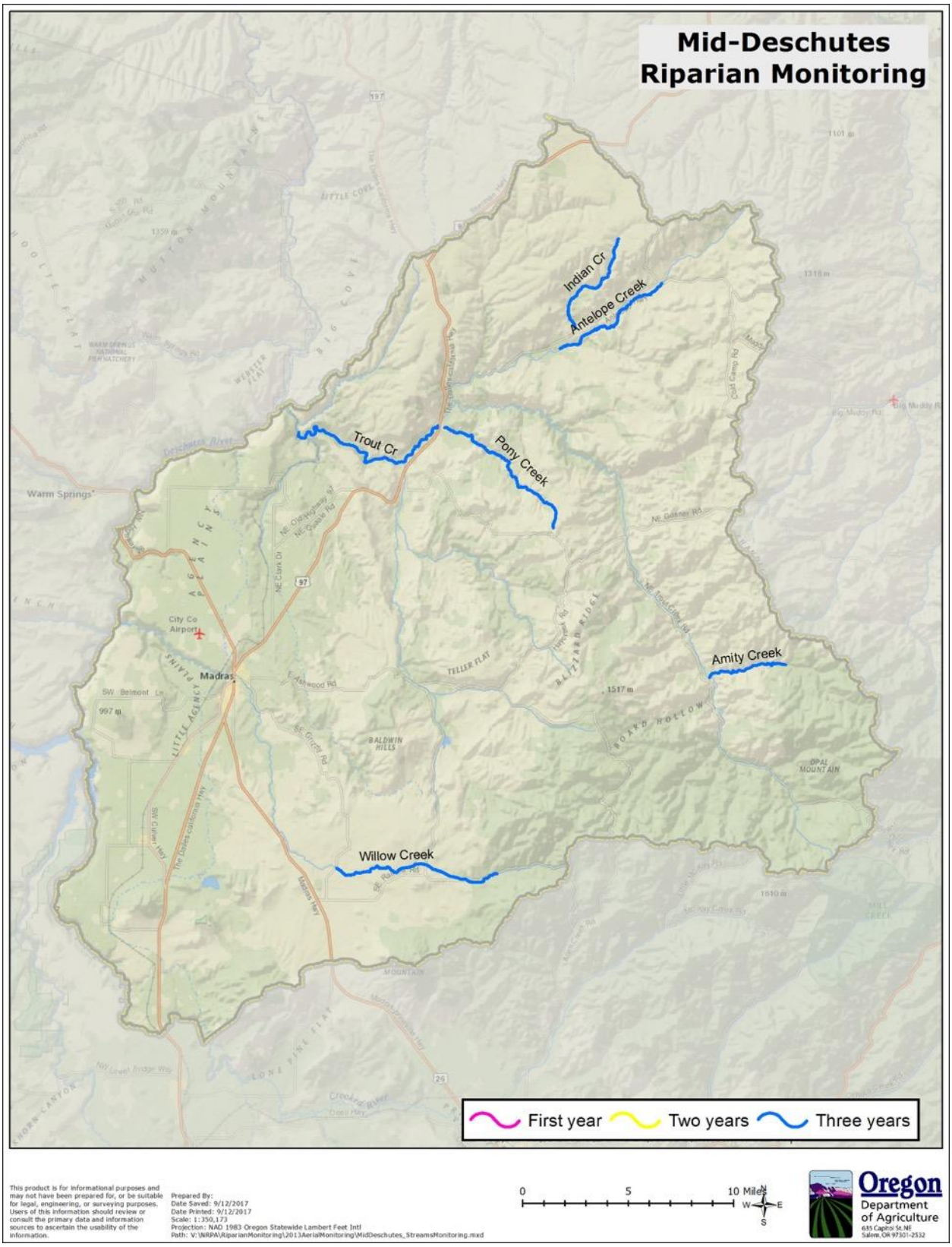
0
5
10 Miles
Oregon
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532


Malheur River
Riparian Monitoring
Lost Valley Ck
Cow Ck
Gum Ck
N Clover Ck
Wolf Ck
Stinkingwater Ck
S Fk Malheur R
Crane Ck
Swamp Ck
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture


Mid-Deschutes
Riparian Monitoring
Indian Cr
Antelope Creek
Trout Cr
Pony Creek
Amity Creek
Willow Creek
Warm Springs
Madras
City Co Airport
First year
Two years
Three years
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
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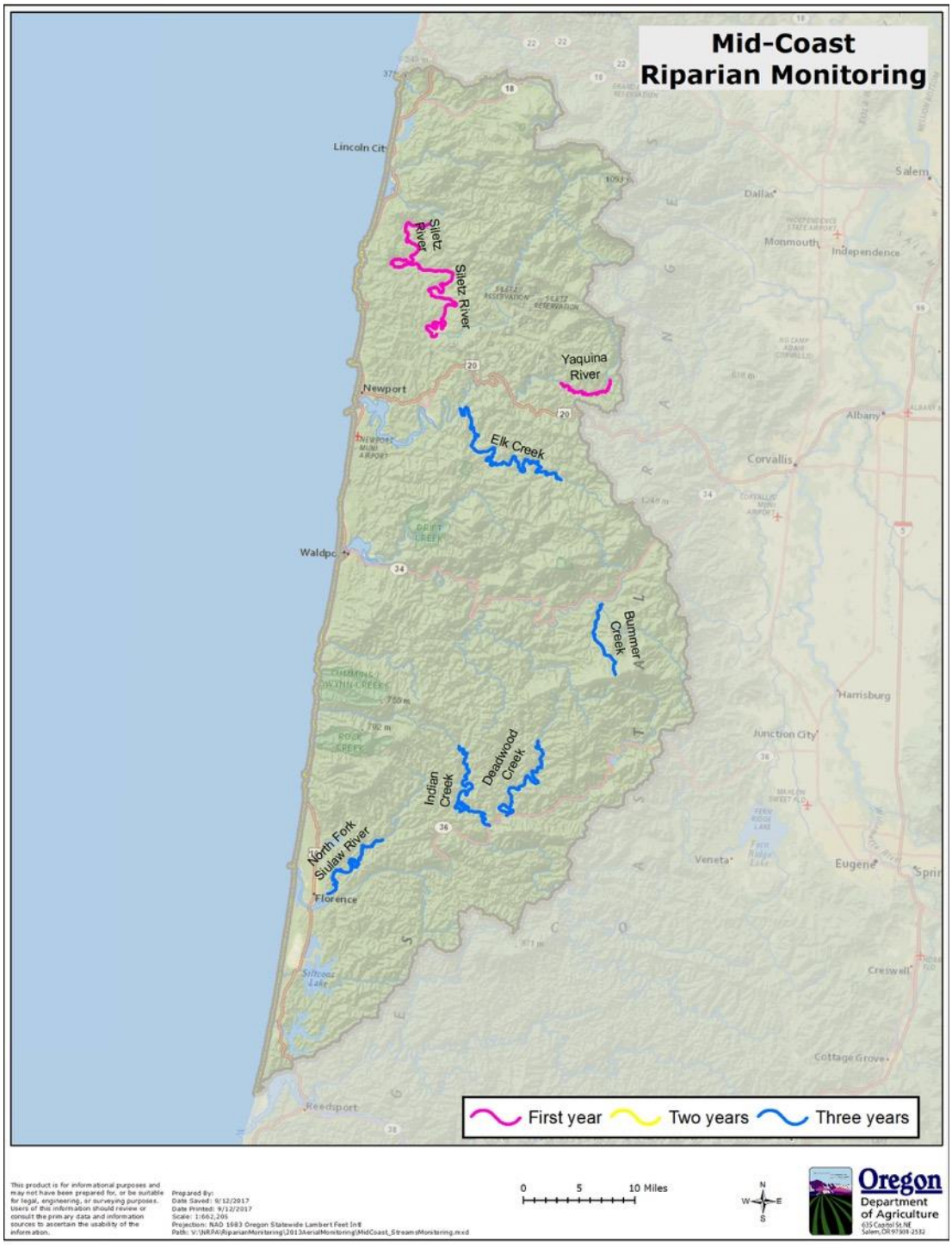
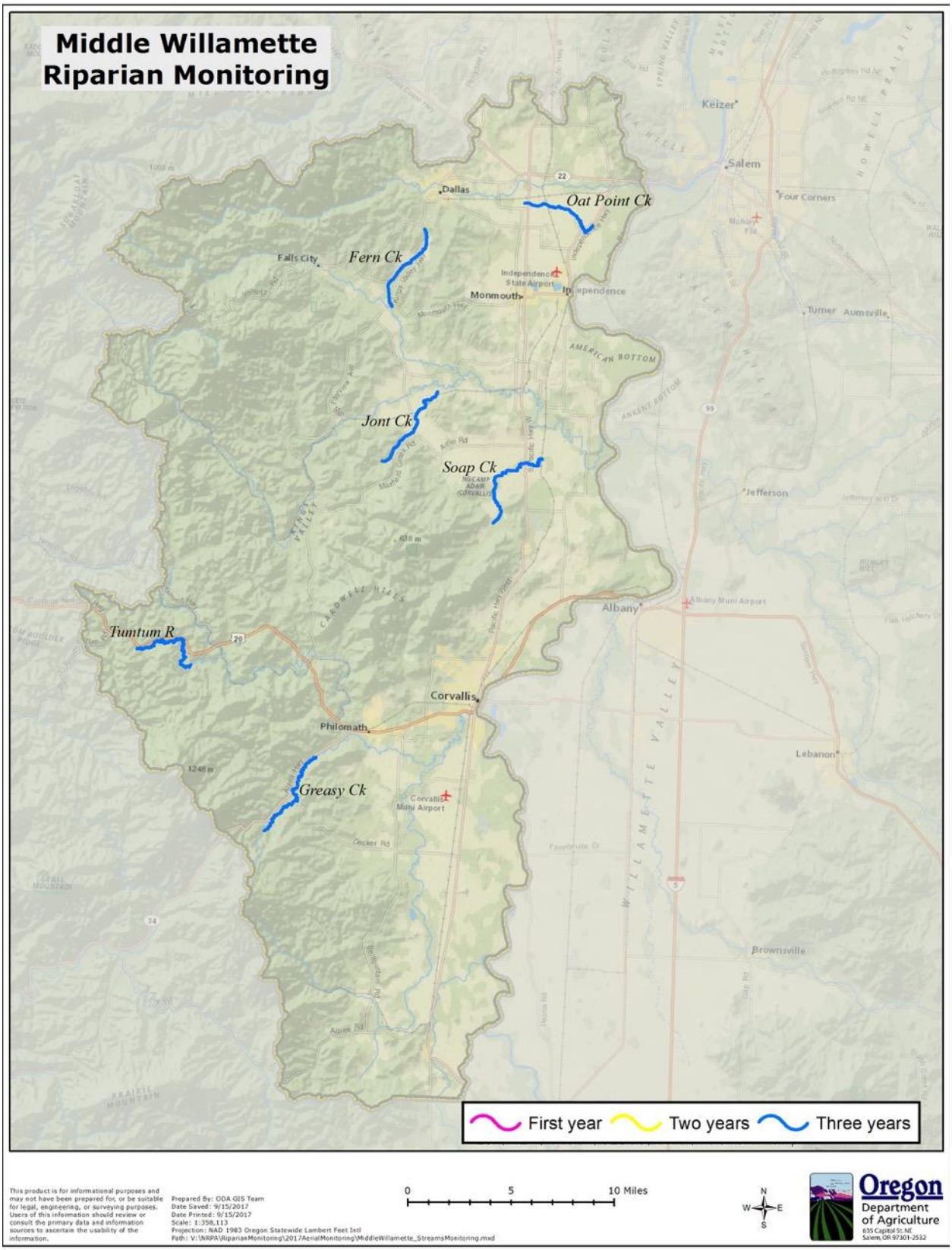
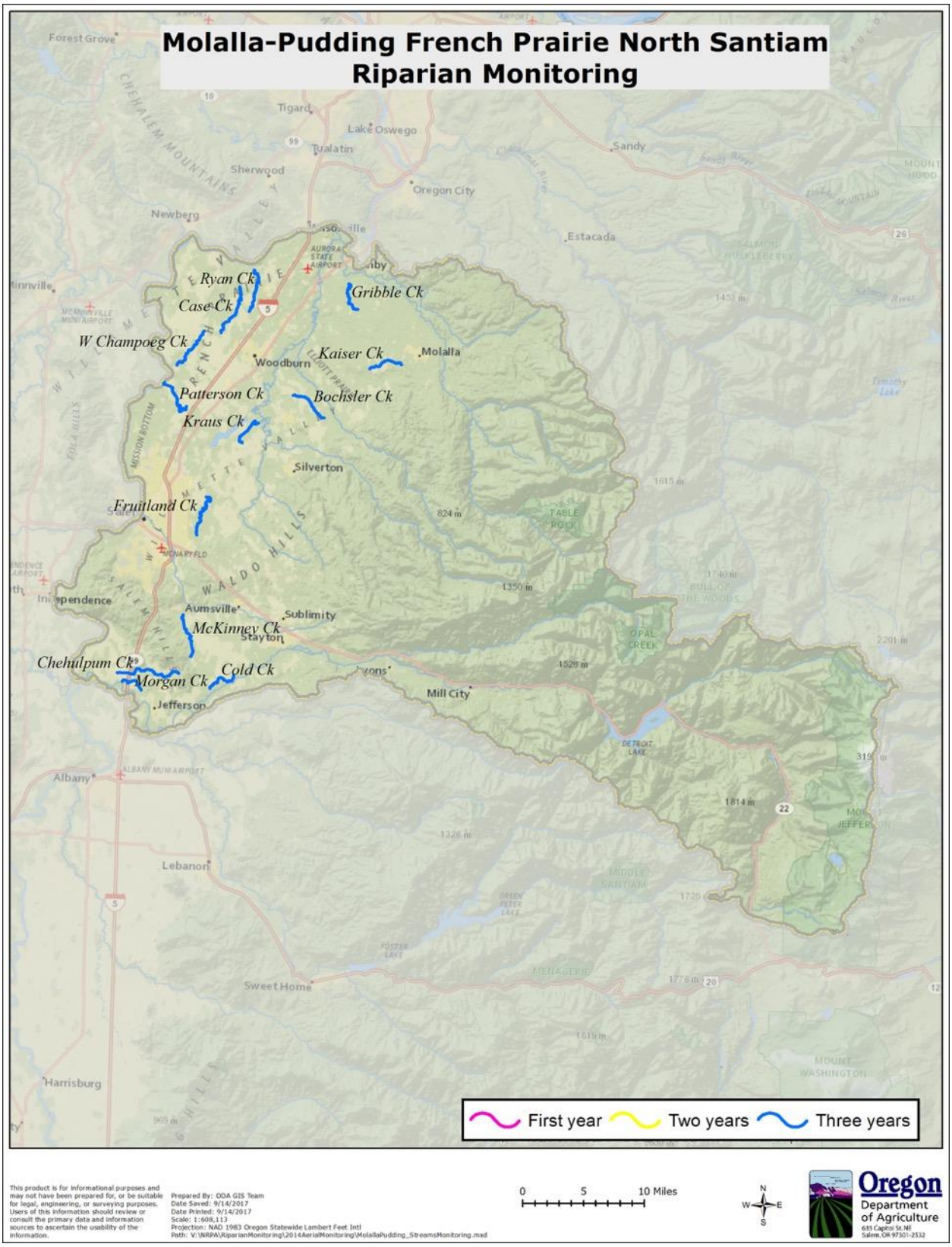
0
5
10 Miles
Oregon
Department
of Agriculture
635 Capitol St.NE
Salem,OR 97301-2532


Mid-Coast
Riparian Monitoring
Siletz River
Siletz River
Yaquina River
Elk Creek
Bummer Creek
Indian Creek
Deadwood Creek
North Fork Siuslaw River
Lincoln City
Newport
Waldport
Florence
Reedsport
Salem
Dallas
Monmouth
Independence
Albany
Corvallis
Harrisburg
Junction City
Veneta
Eugene
Creswell
Cottage Grove
First year
Two years
Three years
0 5 10 Miles
N
W E
S
Oregon
Department
of Agriculture


Middle Willamette
Riparian Monitoring
Oat Point Ck
Fern Ck
Jont Ck
Soap Ck
Tumtum R
Greasy Ck
Dallas
Falls City
Monmouth
Independence
Keizer
Salem
Four Corners
Turner
Aumsville
Jefferson
Albany
Corvallis
Philomath
Lebanon
Brownsville
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532


Molalla-Pudding French Prairie North Santiam
Riparian Monitoring
Ryan Ck
Case Ck
W Champoeg Ck
Gribble Ck
Kaiser Ck
Patterson Ck
Bochsler Ck
Kraus Ck
Fruitland Ck
McKinney Ck
Chehulpum Ck
Morgan Ck
Cold Ck
Woodburn
Molalla
Silverton
Aumsville
Sublimity
Stayton
Jefferson
Mill City
Lebanon
Sweet Home
Albany
Harrisburg
Estacada
Sandy
Oregon City
Lake Oswego
Tigard
Tualatin
Sherwood
Newberg
Forest Grove
First year
Two years
Three years
0 5 10 Miles
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Date Saved: 9/14/2017
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Scale: 1:608,113
Projection: NAD 1983 Oregon Statewide Lambert Feet Intl
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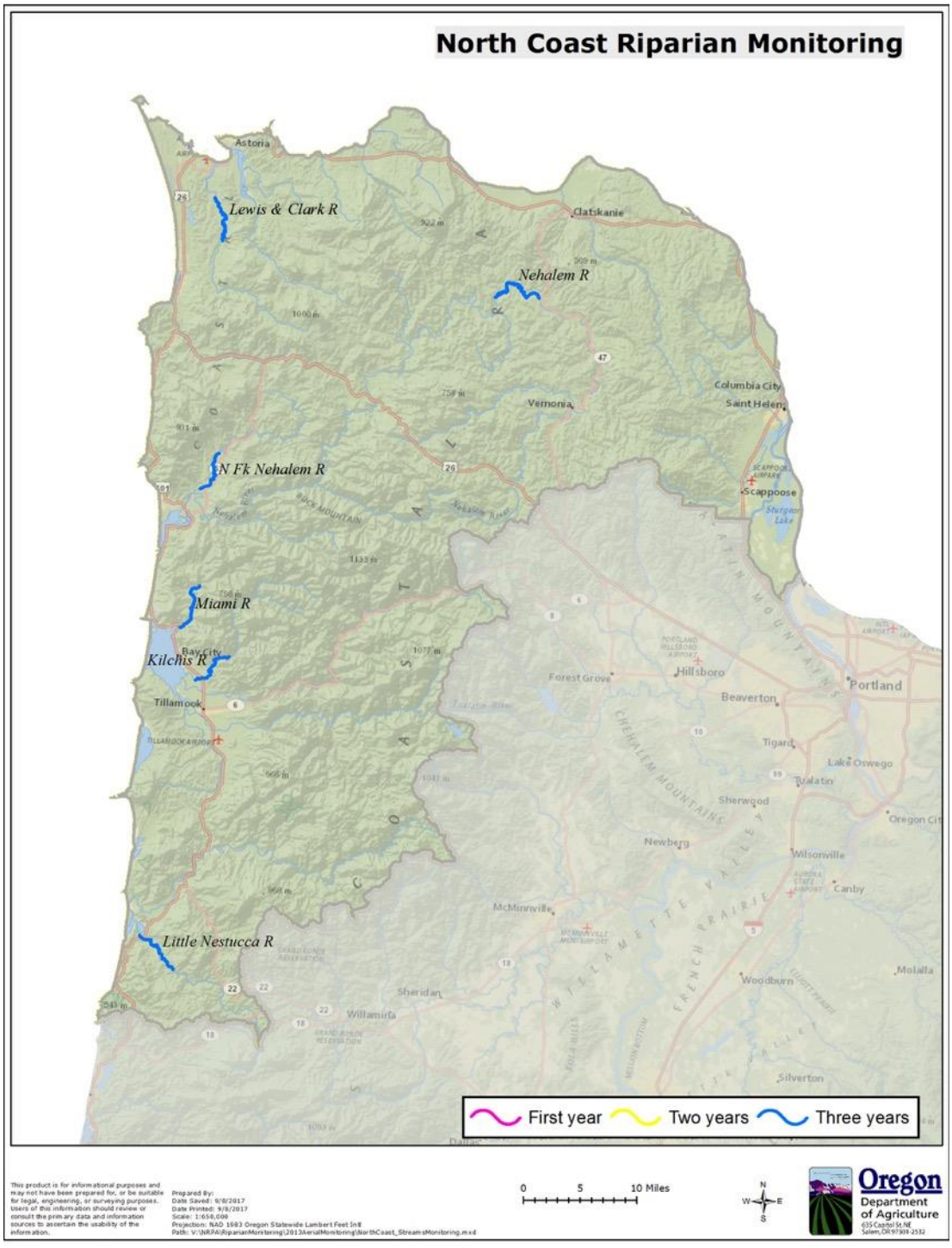
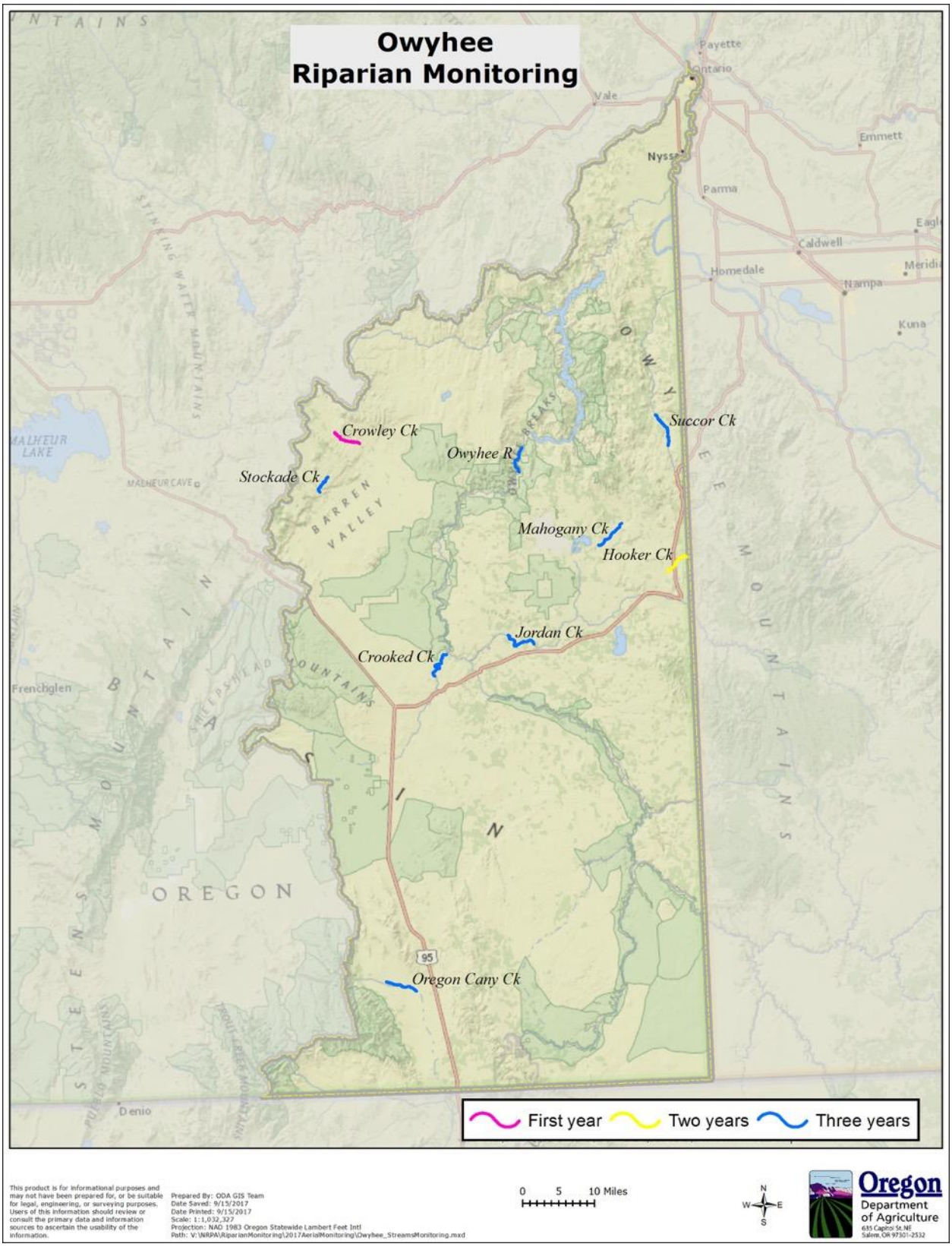
Oregon
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532


North Coast Riparian Monitoring
Lewis & Clark R
Nehalem R
N Fk Nehalem R
Miami R
Kilchis R
Little Nestucca R
Astoria
Clatskanie
Columbia City
Saint Helens
Vernonia
Scappoose
Tillamook
Bay City
Forest Grove
Hillsboro
Beaverton
Portland
Tigard
Lake Oswego
Tualatin
Sherwood
Newberg
Wilsonville
Canby
McMinnville
Woodburn
Molalla
Silverton
Sheridan
Willamina
First year
Two years
Three years
0 5 10 Miles
N
W E
S
Oregon
Department
of Agriculture


Owyhee
Riparian Monitoring
Payette
Ontario
Vale
Emmett
Nyssa
Parma
Caldwell
Homedale
Nampa
Kuna
Crowley Ck
Owyhee R
Stockade Ck
Succor Ck
Mahogany Ck
Hooker Ck
Jordan Ck
Crooked Ck
Oregon Cany Ck
Frenchglen
Denio
OREGON
95
First year
Two years
Three years
0 5 10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St NE
Salem, OR 97301-2532
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Date Printed: 9/15/2017
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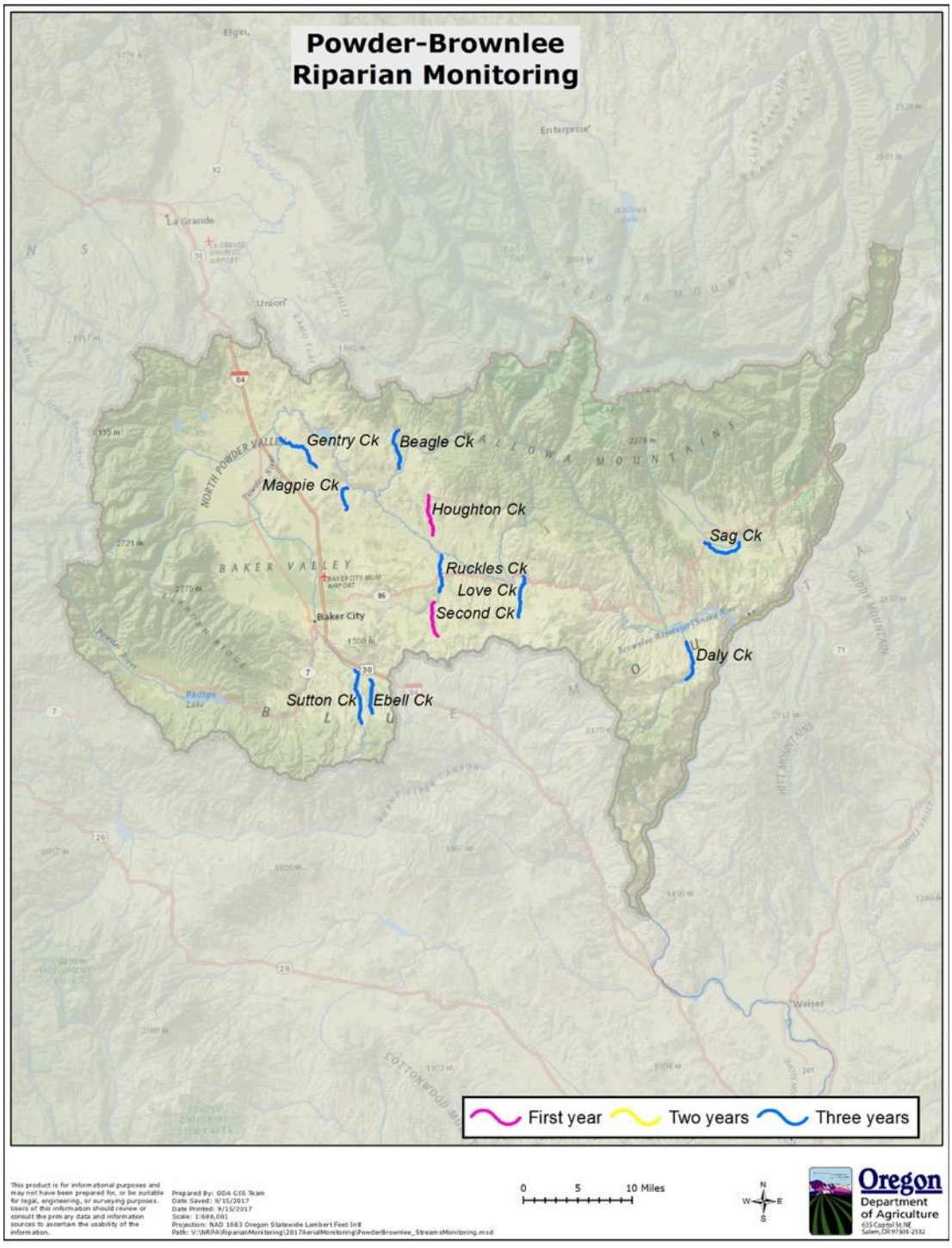
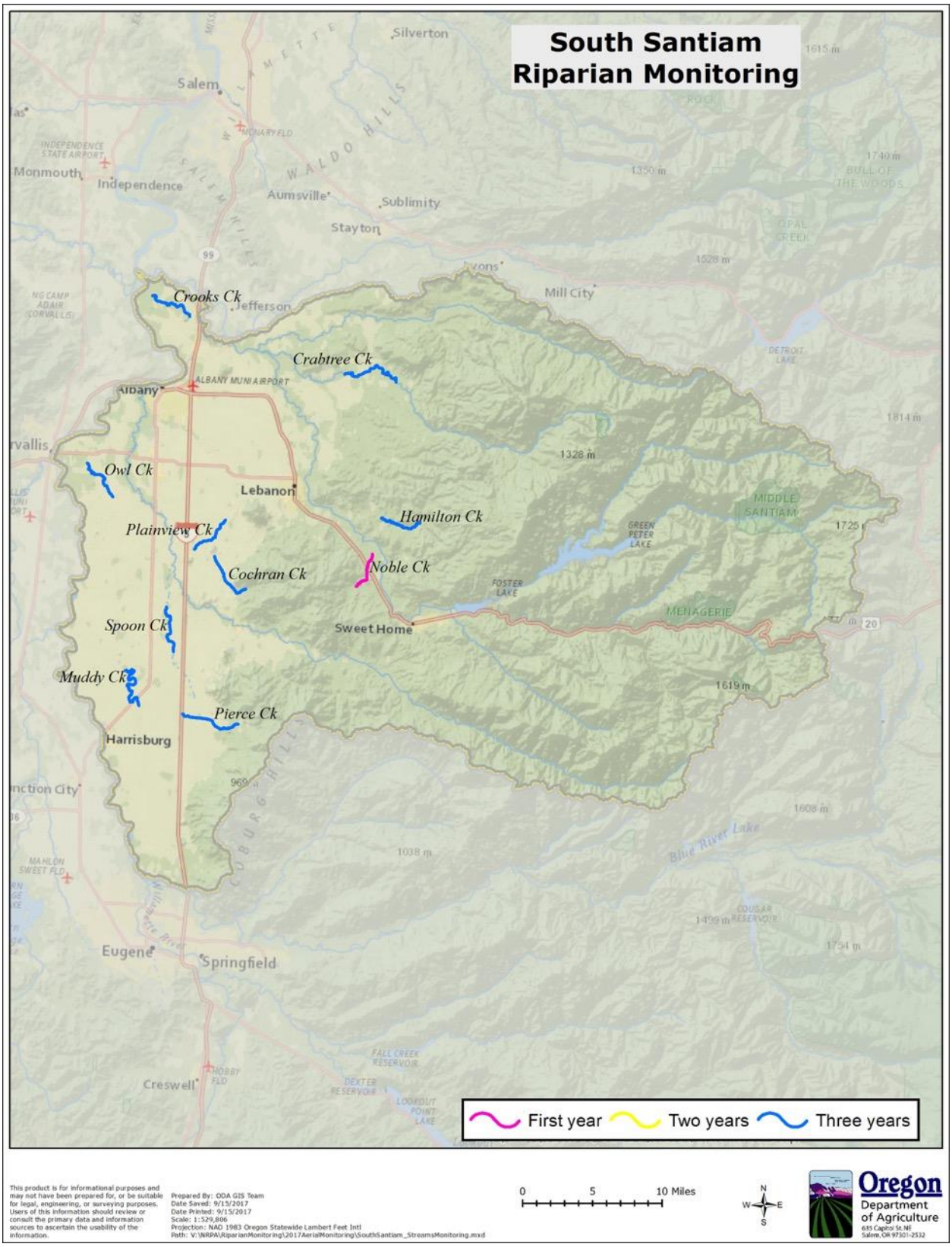
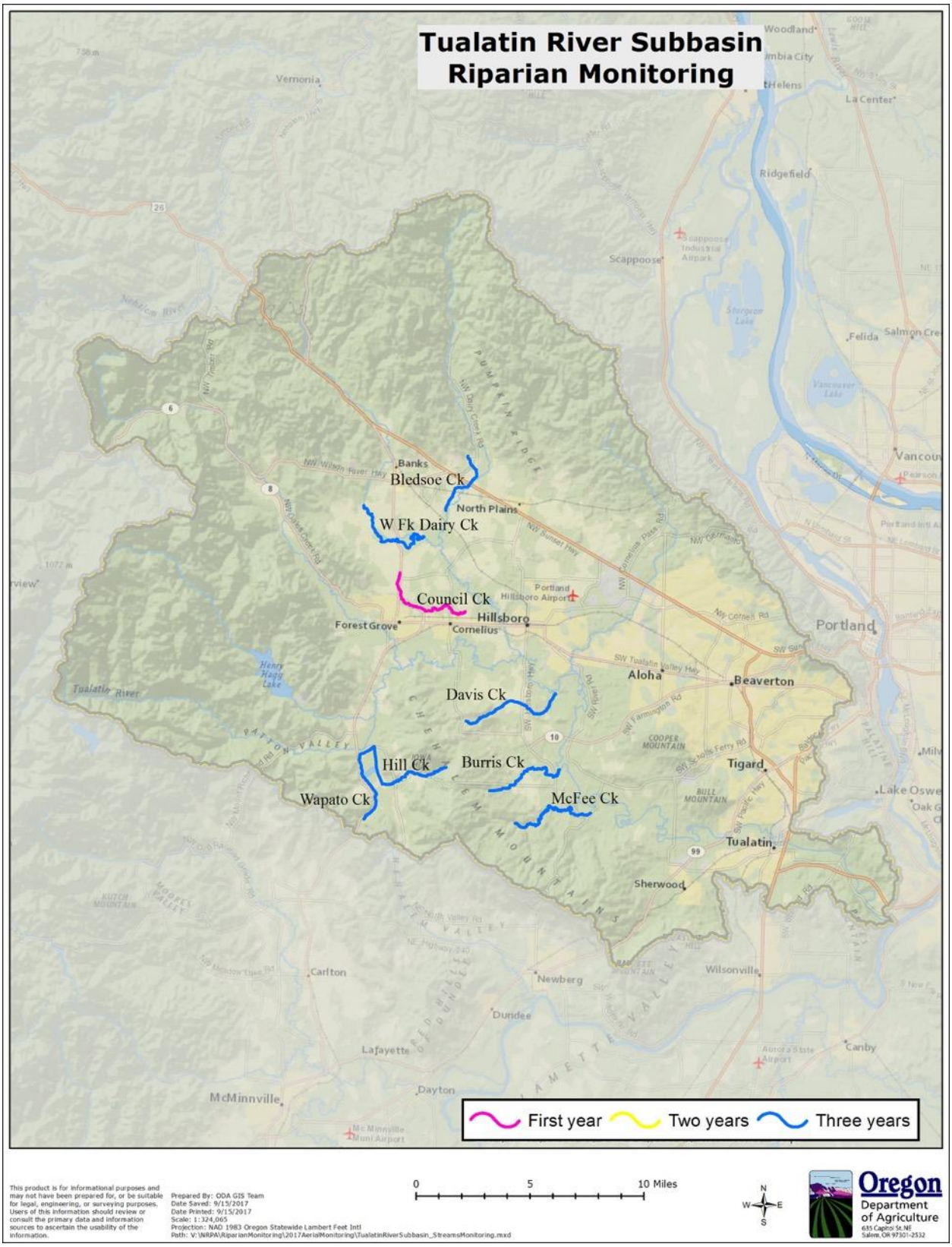

Powder-Brownlee
Riparian Monitoring
Elgin
Enterprise
La Grande
Union
Gentry Ck
Beagle Ck
Magpie Ck
Houghton Ck
Sag Ck
Ruckles Ck
Love Ck
Second Ck
Daly Ck
Sutton Ck
Ebell Ck
Baker City
BAKER VALLEY
NORTH POWDER VALLEY
WALLOWA MOUNTAINS
Weiser
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture


South Santiam
Riparian Monitoring
Silverton
Salem
Monmouth
Independence
Aumsville
Sublimity
Stayton
Mill City
Jefferson
Crooks Ck
Crabtree Ck
Albany
Owl Ck
Lebanon
Hamilton Ck
Plainview Ck
Cochran Ck
Noble Ck
Spoon Ck
Sweet Home
Muddy Ck
Pierce Ck
Harrisburg
Eugene
Springfield
Creswell
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture


Tualatin River Subbasin
Riparian Monitoring
Bledsoe Ck
W Fk Dairy Ck
Council Ck
Davis Ck
Hill Ck
Burris Ck
Wapato Ck
McFee Ck
Banks
North Plains
Forest Grove
Cornelius
Hillsboro
Aloha
Beaverton
Tigard
Tualatin
Sherwood
Portland
Vancouver
Ridgefield
Scappoose
Vernonia
Woodland
La Center
Felida
Carlton
Newberg
Dundee
Lafayette
Dayton
McMinnville
Wilsonville
Canby
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St. NE
Salem, OR 97301-2532
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Date Saved: 9/15/2017
Date Printed: 9/15/2017
Scale: 1:324,065
Projection: NAD 1983 Oregon Statewide Lambert Feet Intl
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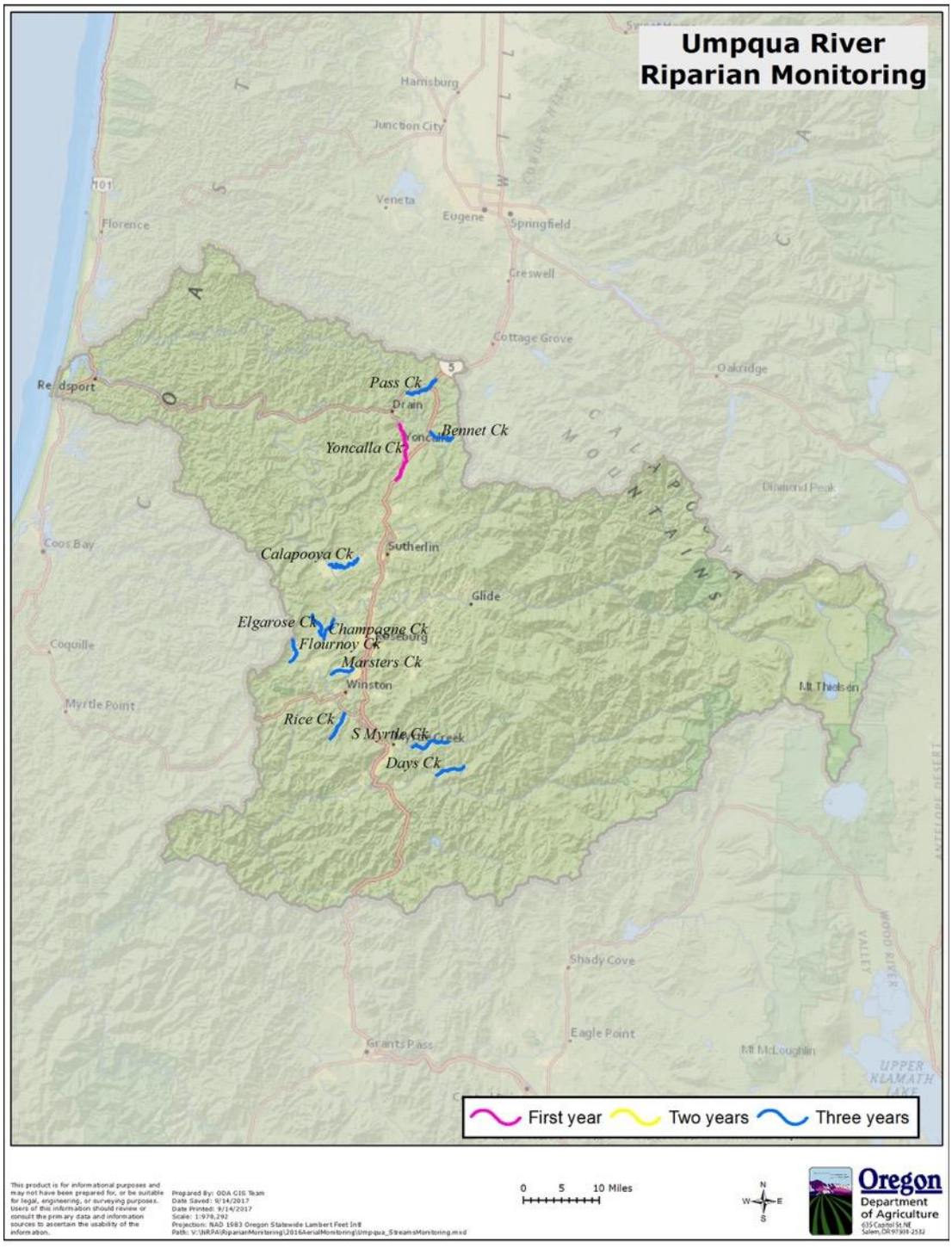
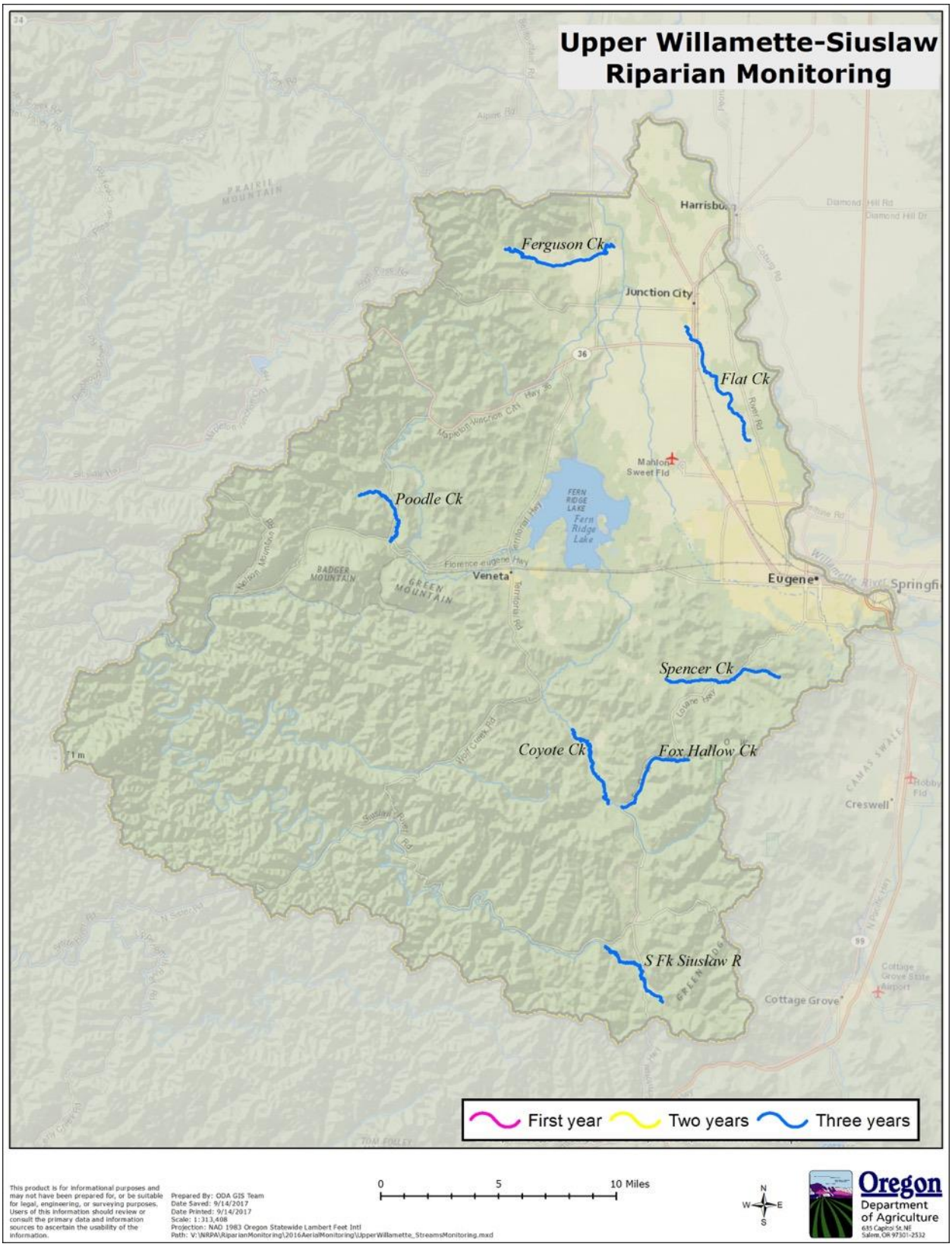
Umatilla Basin
Riparian Monitoring
Benton City
Pasco
Kennewick
Walla Walla
Milton-Freewater
Irrigon
Hermiston
Gerking Ck
Wildhorse Ck
Pendleton
Slusher Cany
Pilot Rock
E Bireh Ck
Owings Ck
Little Butter Ck
La Grande
First year
Two years
Three years
0 5 10 Miles
N
W E
S
Oregon
Department
of Agriculture


Umpqua River
Riparian Monitoring
Hamsburg
Junction City
Veneta
Eugene
Springfield
Florence
Creswell
Cottage Grove
Oakridge
Reedsport
Pass Ck
Drain
Bennet Ck
Yoncalla Ck
Coos Bay
Sutherlin
Calapooya Ck
Glide
Elgarose Ck
Champagne Ck
Flournoy Ck
Marsters Ck
Winston
Coquille
Myrtle Point
Rice Ck
S Myrtle Ck
Days Ck
Mt Thielsen
Shady Cove
Eagle Point
Grants Pass
Mt McLoughlin
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture


Upper Willamette-Siuslaw
Riparian Monitoring
Ferguson Ck
Junction City
Flat Ck
Poodle Ck
Mahlon Sweet Fld
FERN RIDGE LAKE
Fern Ridge Lake
Veneta
Eugene
Springfi
BADGER MOUNTAIN
GREEN MOUNTAIN
Spencer Ck
Coyote Ck
Fox Hallow Ck
Creswell
S Fk Siuslaw R
Cottage Grove
First year
Two years
Three years
0
5
10 Miles
N
W
E
S
Oregon
Department
of Agriculture
635 Capitol St NE
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Date Printed: 9/14/2017
Scale: 1:313,408
Projection: NAD 1983 Oregon Statewide Lambert Feet Intl
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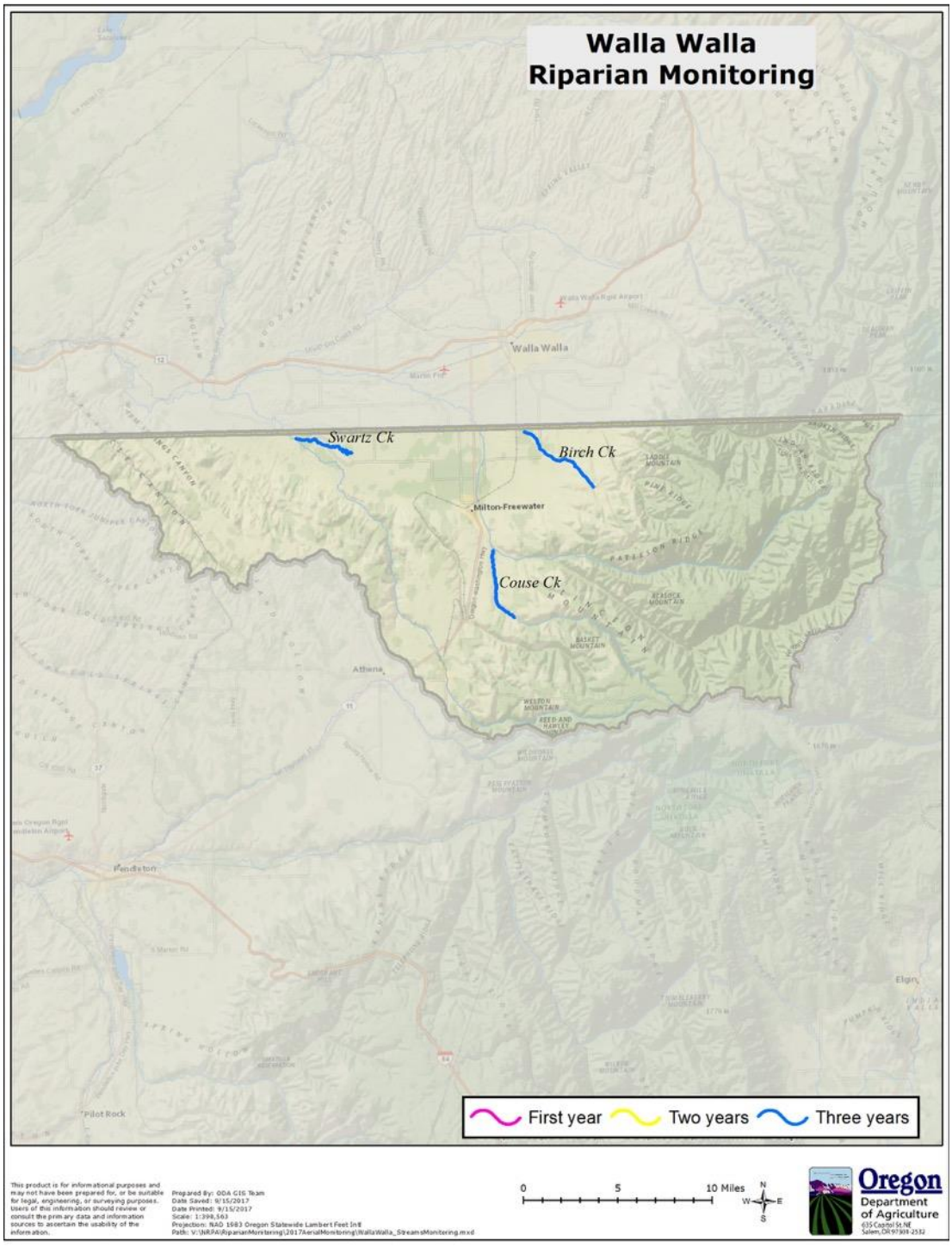
Walla Walla
Riparian Monitoring
Swartz Ck
Birch Ck
Couse Ck
Walla Walla
Milton-Freewater
Athena
Pendleton
Pilot Rock
Elgin
First year
Two years
Three years
0
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10 Miles
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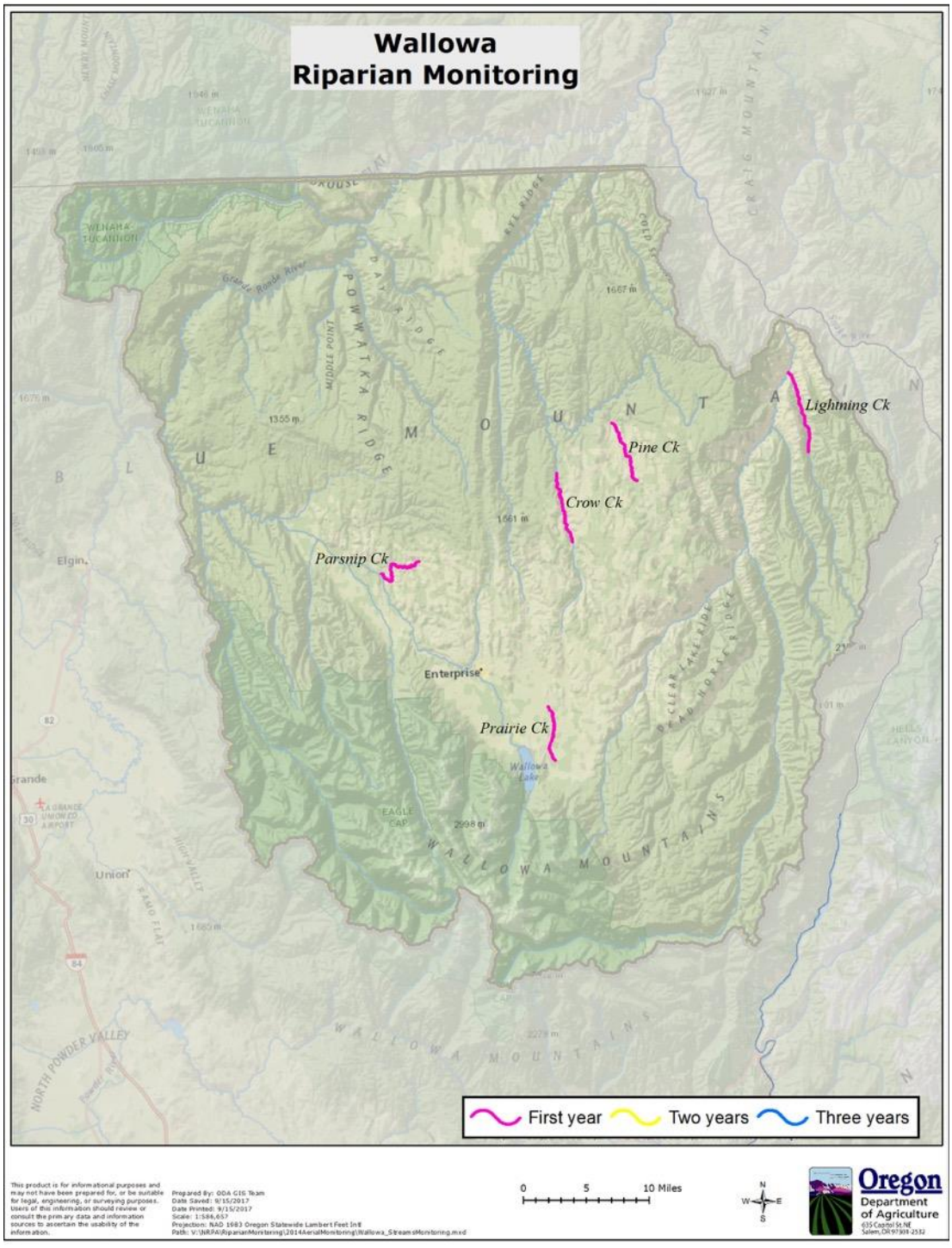
Oregon
Department
of Agriculture

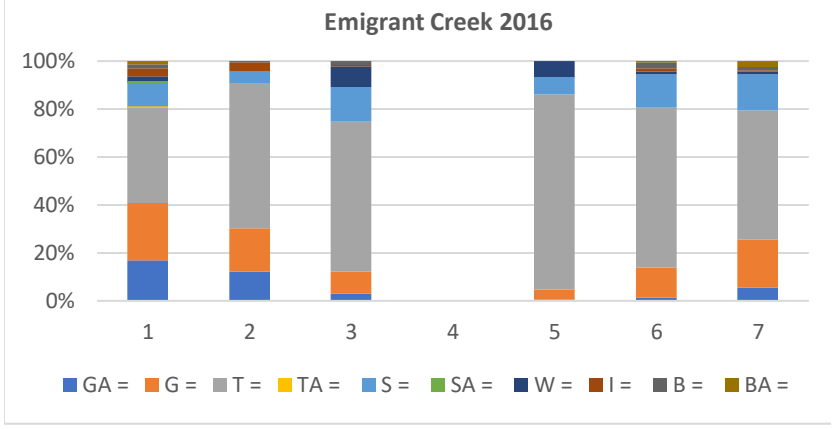

Wallowa
Riparian Monitoring
Lightning Ck
Pine Ck
Crow Ck
Parsnip Ck
Prairie Ck
Enterprise
Elgin
Union
Wallowa Lake
WALLOWA MOUNTAINS
First year
Two years
Three years
0 5 10 Miles
Oregon
Department
of Agriculture

Appendix B: Monitored Landscape Cover Types by Band for Streams Photographed More than Once

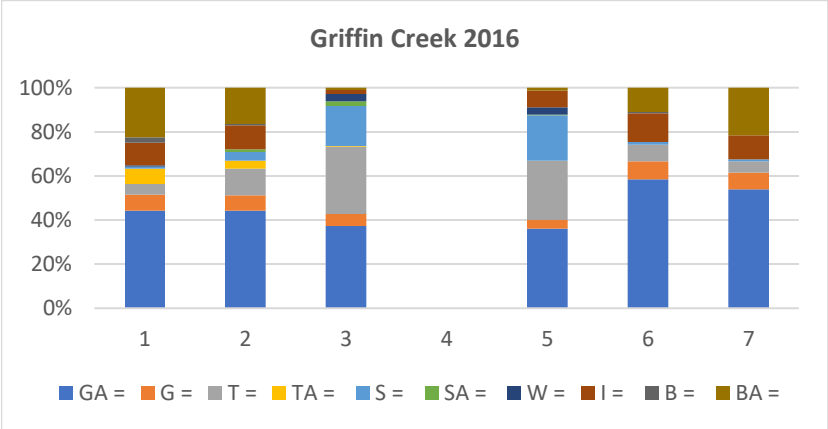
To read graphs, the columns are arranged as: 90L, 60L, 30L, 30R, 60R, 90R.

BEAR CREEK BASIN:

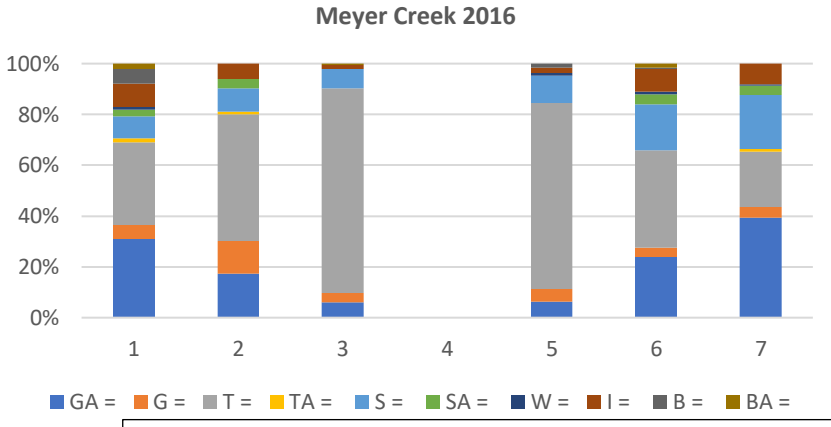
EMIGRANT CREEK 2016 PERCENTAGES						
GA =	16.98	12.12	2.87	0.60	1.26	5.59
G =	23.90	18.18	9.20	4.19	12.58	19.88
T =	39.62	60.61	62.64	81.44	66.67	54.04
TA =	0.63	0.00	0.00	0.00	0.00	0.00
S =	10.06	4.85	14.37	7.19	13.84	14.91
SA =	0.63	0.00	0.00	0.00	0.00	0.00
W =	1.89	0.00	8.62	6.59	1.26	1.24
I =	3.14	3.64	0.57	0.00	1.26	0.62
B =	1.89	0.61	1.72	0.00	2.52	1.24
BA =	1.26	0.00	0.00	0.00	0.63	2.48



GRIFFIN CREEK 2016 PERCENTAGES						
GA =	44.19	44.39	37.37	36.13	58.33	53.82
G =	7.36	6.73	5.34	3.78	8.33	7.64
T =	4.65	12.11	30.60	26.89	7.54	5.09
TA =	6.98	3.59	0.36	0.00	0.00	0.00
S =	1.16	4.04	18.15	20.59	1.19	1.09
SA =	0.00	1.35	2.14	0.42	0.00	0.00
W =	0.39	0.00	3.20	3.36	0.00	0.00
I =	10.47	10.76	1.78	7.56	13.10	10.91
B =	2.33	0.45	0.00	0.00	0.40	0.00
BA =	22.48	16.59	1.07	1.26	11.11	21.45



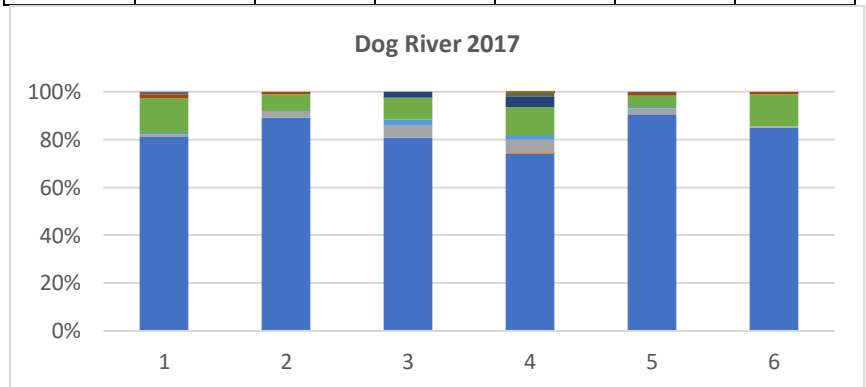
MEYER CREEK 2016 PERCENTAGES						
GA =	31.02	17.30	6.01	6.38	23.76	39.38
G =	5.35	12.97	3.83	4.79	3.87	4.15
T =	32.62	49.73	80.33	73.40	38.12	21.76
TA =	1.60	1.08	0.00	0.00	0.00	1.04
S =	8.56	9.19	7.65	10.64	18.23	21.24
SA =	2.67	3.78	0.00	0.00	3.87	3.63
W =	1.07	0.00	0.00	1.06	1.10	0.52
I =	9.09	5.95	1.64	2.13	8.84	8.29
B =	5.88	0.00	0.00	1.60	0.55	0.00
BA =	2.14	0.00	0.55	0.00	1.66	0.00



BURNT RIV

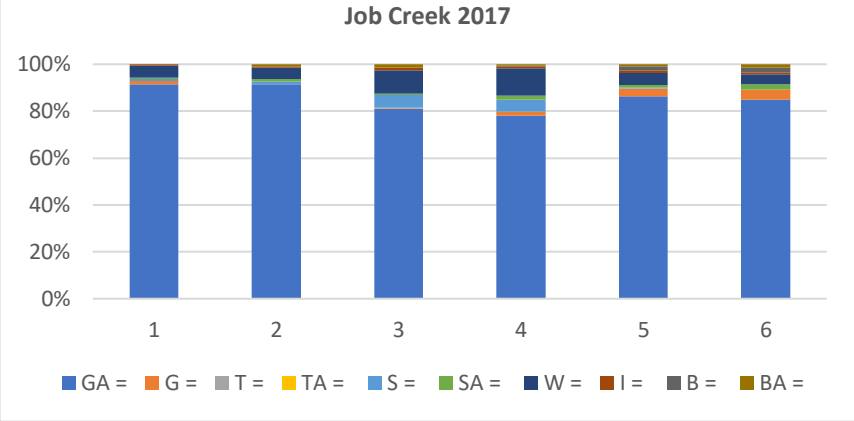
CAMP CREEK 2017 PERCENTAGES						
GA =	69.91	62.73	63.64	52.70	57.78	67.46
G =	0.00	0.00	0.45	0.00	0.44	0.00
T =	2.31	3.18	4.55	3.73	3.11	1.44
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.02	9.09	10.45	12.45	13.33	9.09
SA =	16.67	23.18	9.55	11.62	21.33	19.14

DOG RIVER 2017 PERCENTAGES						
GA =	81.03	89.29	80.90	74.00	90.48	85.00
G =	0.00	0.00	0.00	0.50	0.00	0.00
T =	1.15	2.55	5.03	5.50	2.65	0.56
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.57	0.00	2.51	2.00	0.53	0.00
SA =	14.37	7.14	9.05	11.50	4.76	13.33
W =	0.00	0.00	2.51	4.50	0.00	0.00
I =	1.72	1.02	0.00	0.00	1.06	1.11
B =	1.15	0.00	0.00	1.50	0.53	0.00
BA =	0.00	0.00	0.00	0.50	0.00	0.00

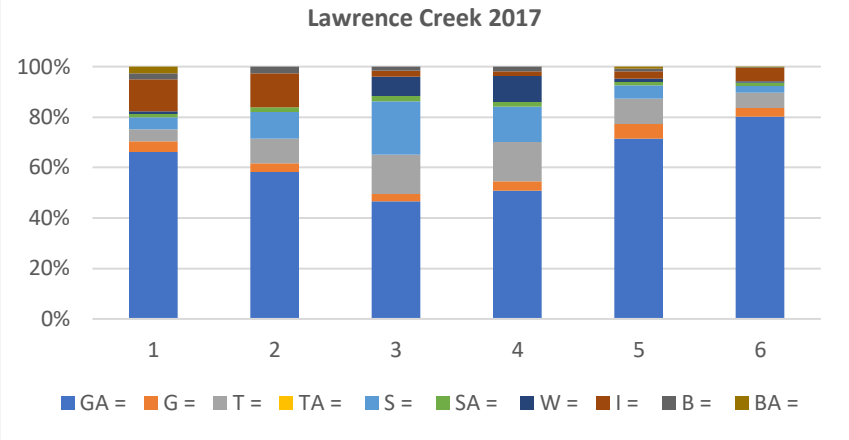


Durkee Creek 2017 PERCENTAGES						
GA =	77.74	66.77	70.03	76.66	78.16	81.73
G =	0.34	0.97	0.00	0.00	0.32	0.00
T =	0.34	2.58	4.61	6.31	2.85	2.56
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.42	4.52	8.07	5.05	0.63	0.00
SA =	11.99	16.77	10.95	4.73	12.03	12.82
W =	0.34	0.00	3.17	3.15	0.00	0.00

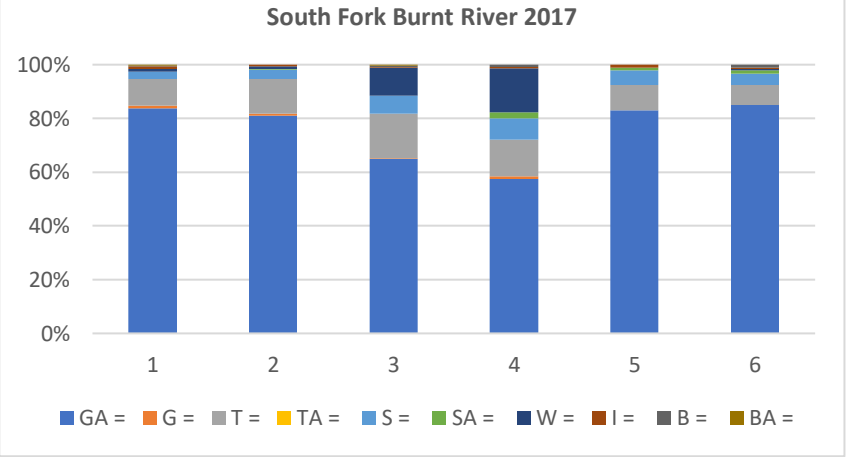
JOB CREEK 2017 PERCENTAGES						
GA =	91.30	91.56	81.01	78.07	86.38	84.81
G =	1.45	0.00	0.30	1.75	2.99	4.43
T =	0.00	0.00	0.30	0.00	0.33	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.87	0.94	5.34	4.97	0.33	0.00
SA =	0.58	1.25	0.59	1.75	1.00	2.22
W =	5.22	4.69	9.79	11.70	5.32	4.11
I =	0.58	0.63	1.19	0.88	1.00	0.95
B =	0.00	0.00	0.00	0.29	1.66	1.90
BA =	0.00	0.94	1.48	0.58	1.00	1.58



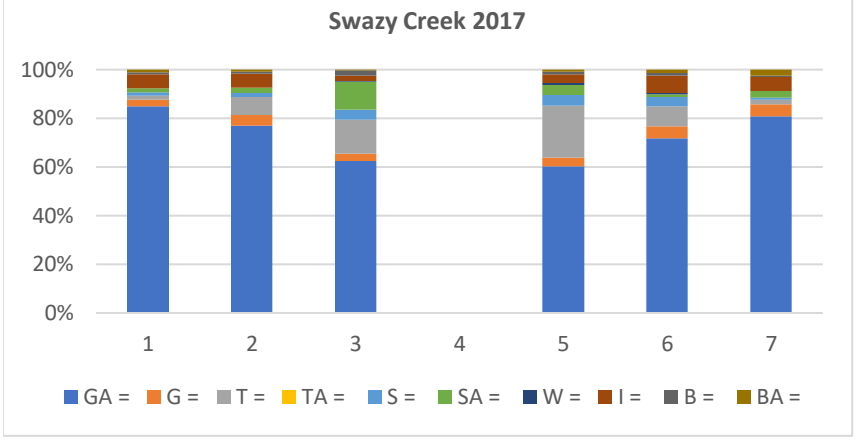
LAWRENCE CREEK 2017 PERCENTAGES						
GA =	66.18	58.12	46.70	50.79	71.54	80.06
G =	4.08	3.66	2.90	3.70	5.69	3.52
T =	4.96	9.69	15.57	15.61	10.03	6.16
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.66	10.47	21.11	14.02	5.42	2.64
SA =	1.46	1.83	2.11	1.85	1.08	1.17
W =	0.87	0.00	7.65	10.32	1.36	0.59
I =	12.83	13.61	2.37	1.85	2.98	5.28
B =	2.33	2.62	1.58	1.85	1.08	0.29
BA =	2.62	0.00	0.00	0.00	0.81	0.29



SOUTH FORK BURNT RIVER 2017 PERCENTAGES						
GA =	83.67	80.94	64.77	57.57	82.88	85.05
G =	1.00	0.94	0.28	0.89	0.00	0.00
T =	10.00	12.81	16.76	13.65	9.61	7.31
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.67	3.44	6.53	8.01	5.41	4.32
SA =	0.00	0.31	0.00	2.08	0.90	1.33
W =	1.00	0.94	10.51	16.32	0.00	0.33
I =	1.00	0.63	0.28	0.59	1.20	0.66
B =	0.33	0.00	0.57	0.89	0.00	1.00
BA =	0.33	0.00	0.28	0.00	0.00	0.00

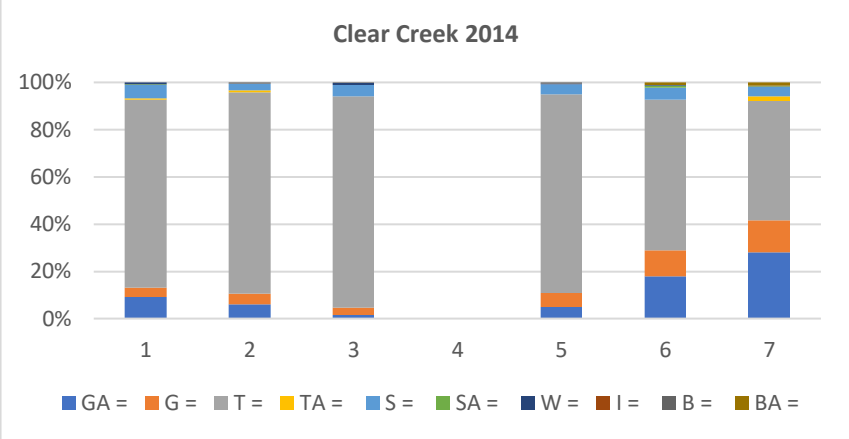


SWAYZ CREEK 2017 PERCENTAGES						
GA =	84.84	77.08	62.45	60.16	71.73	80.93
G =	2.87	4.17	2.95	3.59	5.06	4.66
T =	1.64	7.50	13.92	21.51	8.02	2.12
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.23	1.67	4.22	4.38	3.80	0.85
SA =	1.64	2.08	11.39	3.98	1.27	2.54
W =	0.00	0.00	0.42	0.80	0.42	0.00
I =	5.74	5.83	2.11	3.59	7.17	5.93
B =	0.82	0.83	2.11	1.20	1.27	0.42
BA =	1.23	0.83	0.42	0.80	1.27	2.54

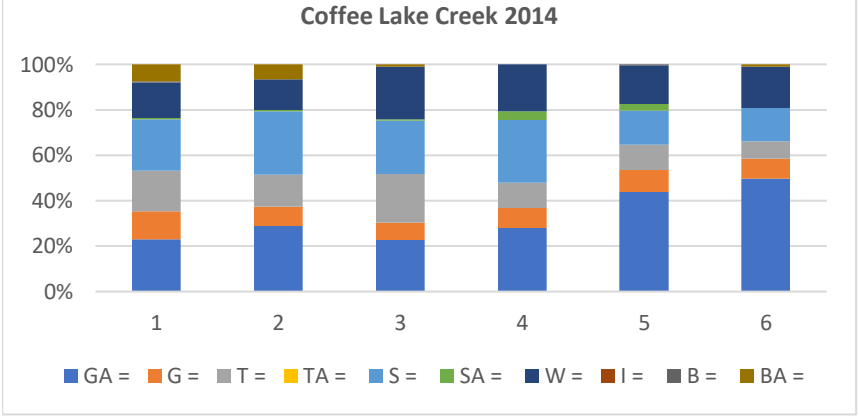


CLACKAMAS BASIN:

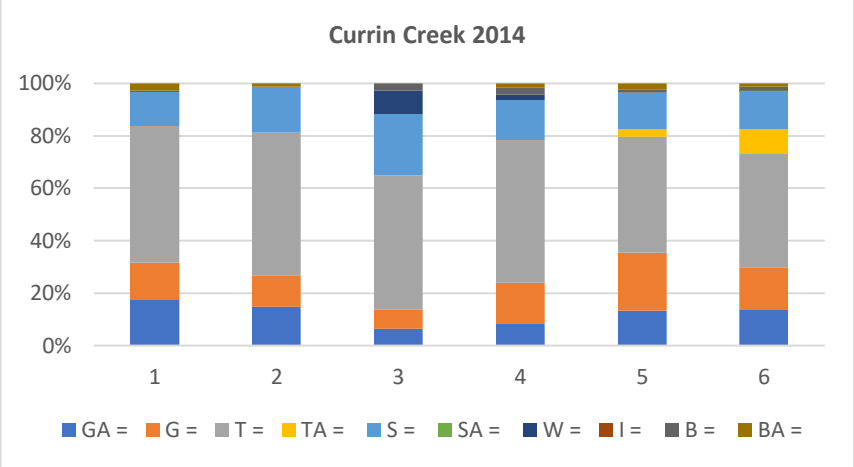
CLEAR CREEK 2014 PERCENTAGES						
GA =	9.26	6.07	1.48	4.76	17.80	27.99
G =	3.70	4.62	3.26	5.95	11.00	13.52
T =	79.63	84.97	89.02	83.63	63.75	50.31
TA =	0.62	0.87	0.00	0.00	0.00	1.89
S =	5.56	2.89	4.75	4.17	5.18	4.09
SA =	0.31	0.00	0.00	0.00	0.97	0.31
W =	0.93	0.00	0.89	0.30	0.32	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.58	0.30	0.60	0.00	0.31
BA =	0.00	0.00	0.00	0.00	0.97	1.26



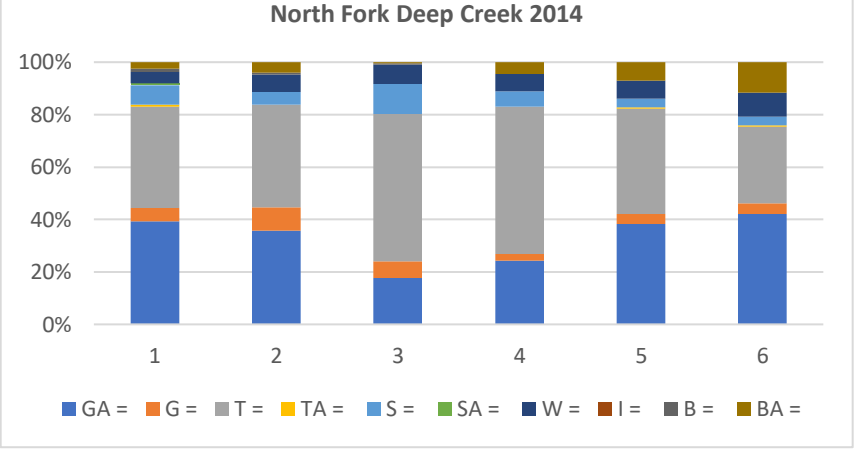
COFFEE LAKE CREEK 2014 PERCENTAGES						
GA =	23.12	28.97	22.79	28.05	43.96	49.76
G =	12.06	8.41	7.44	8.60	9.66	8.61
T =	18.09	14.02	21.40	11.31	11.11	7.66
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	22.61	28.04	23.72	27.60	14.98	14.83
SA =	0.50	0.47	0.47	3.62	2.90	0.00
W =	15.58	13.55	23.26	20.81	16.91	18.18
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.50	0.00	0.00	0.00	0.48	0.00
BA =	7.54	6.54	0.93	0.00	0.00	0.96



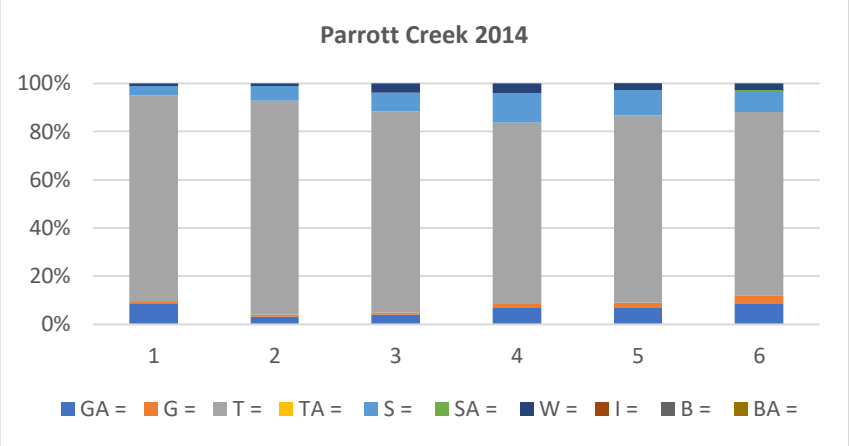
CURRIN CREEK 2014 PERCENTAGES						
GA =	17.39	14.69	6.38	8.38	13.37	13.51
G =	14.13	11.86	7.45	15.71	22.09	16.22
T =	52.17	54.24	51.06	54.45	44.19	43.24
TA =	0.00	0.00	0.00	0.00	2.91	9.46
S =	13.04	17.51	23.40	15.18	13.95	14.19
SA =	0.00	0.00	0.00	0.00	0.00	0.68
W =	0.00	0.00	9.04	2.09	0.00	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.54	0.00	2.66	2.62	1.16	1.35
BA =	2.72	1.13	0.00	1.57	2.33	1.35



NORTH FORK DEEP CREEK 2014 PERCENTAGES						
GA =	39.38	35.81	17.73	24.18	38.22	42.21
G =	5.00	8.78	6.40	2.61	3.82	3.90
T =	38.75	39.19	56.16	56.21	40.13	29.22
TA =	0.63	0.00	0.00	0.00	0.64	0.65
S =	7.50	4.73	11.33	5.88	3.18	3.25
SA =	0.63	0.00	0.00	0.00	0.00	0.00
W =	4.38	6.76	7.39	6.54	7.01	9.09
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	1.25	0.68	0.49	0.00	0.00	0.00

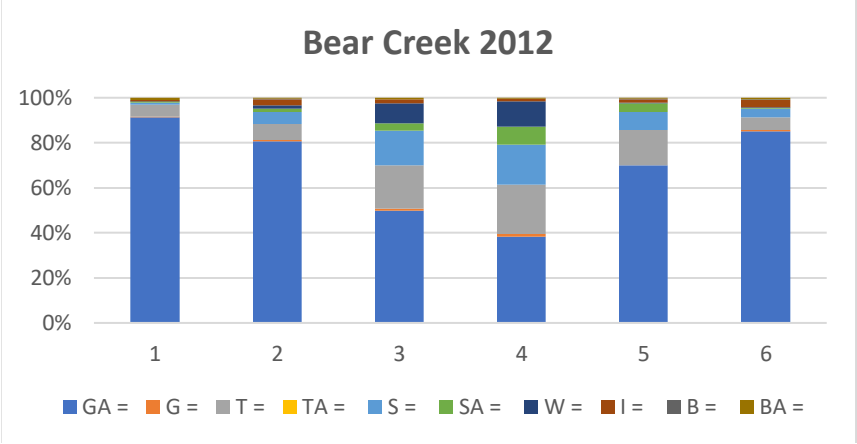


PARROTT CREEK 2014 PERCENTAGES						
GA =	8.59	3.25	4.07	6.87	6.82	8.71
G =	0.78	0.72	0.74	1.53	2.27	3.41
T =	85.55	88.81	83.33	75.19	77.65	76.14
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.91	6.14	7.78	12.21	10.61	8.71
SA =	0.00	0.00	0.00	0.00	0.00	0.38
W =	1.17	1.08	3.70	4.20	2.27	2.65
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.00	0.00	0.38	0.00
BA =	0.00	0.00	0.00	0.00	0.00	0.00

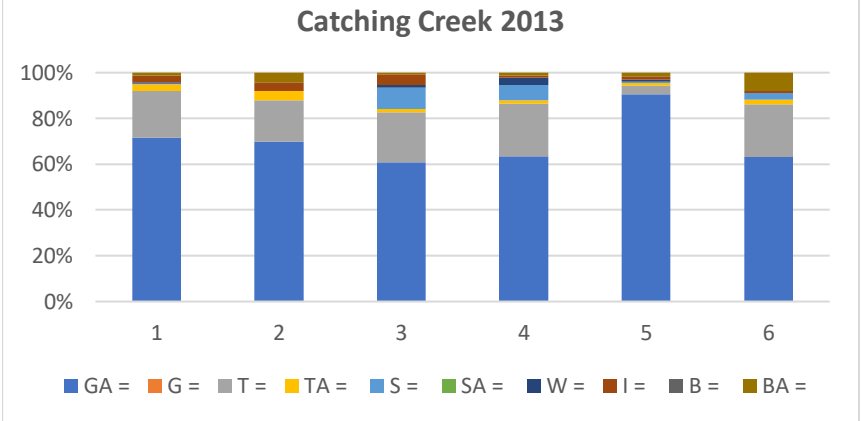


COOS COQUILLE BASIN:

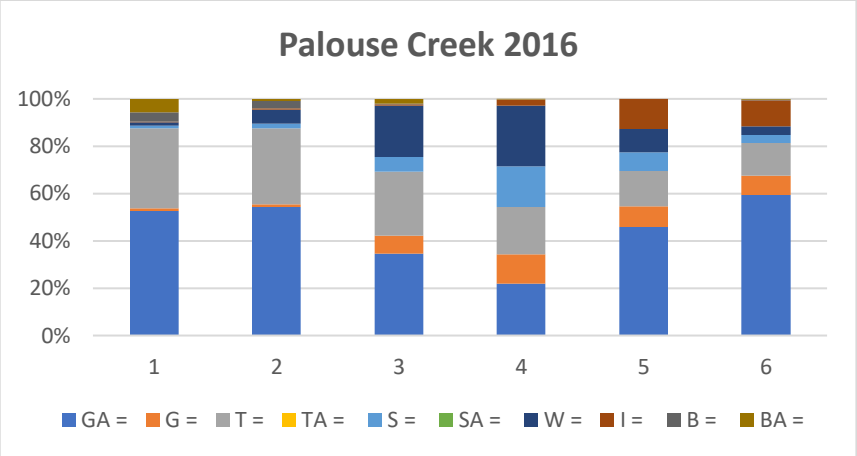
BEAR CREEK 2013 PERCENTAGES						
GA =	90.51	78.29	47.42	36.56	67.64	83.08
G =	0.32	0.61	0.91	0.91	0.00	0.62
T =	5.38	7.03	18.24	20.85	15.21	5.54
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.74	5.18	14.61	16.87	7.97	3.68
SA =	0.49	1.48	3.18	7.60	3.45	0.49
W =	0.24	1.21	8.60	10.79	0.51	0.24
I =	0.49	2.66	1.52	1.03	1.28	3.14
B =	0.00	0.24	0.00	0.00	0.25	0.24
BA =	0.97	0.48	0.73	0.48	0.50	0.72



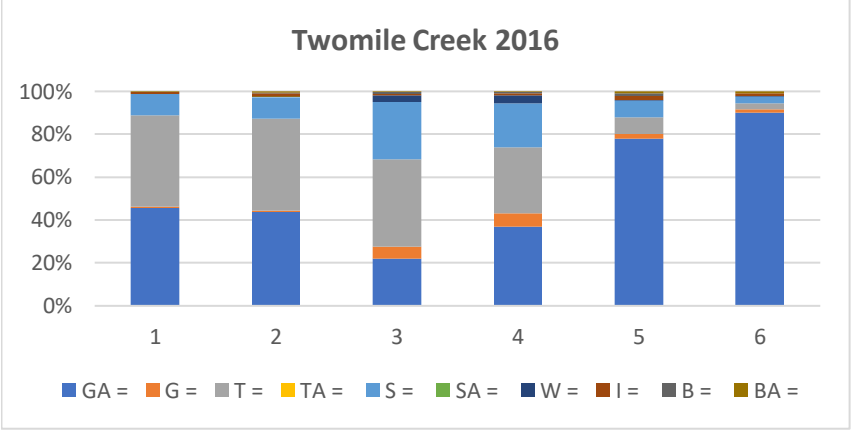
CATCHING CREEK 2013 PERCENTAGES						
GA =	69.39	66.88	57.14	59.86	88.34	59.24
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	19.73	17.20	20.50	21.77	3.68	21.66
TA =	2.72	3.82	1.24	1.36	1.23	1.91
S =	0.46	0.00	8.71	6.28	0.40	2.77
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.42	0.00	1.26	3.06	0.78	0.00
I =	2.93	3.67	4.17	0.87	1.56	0.83
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	1.25	4.08	0.80	1.27	1.56	7.42



PALOUSE CREEK 2016 PERCENTAGES						
GA =	69.39	66.88	57.14	59.86	88.34	59.24
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	19.73	17.20	20.50	21.77	3.68	21.66
TA =	2.72	3.82	1.24	1.36	1.23	1.91
S =	0.46	0.00	8.71	6.28	0.40	2.77
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.42	0.00	1.26	3.06	0.78	0.00
I =	2.93	3.67	4.17	0.87	1.56	0.83
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	1.25	4.08	0.80	1.27	1.56	7.42

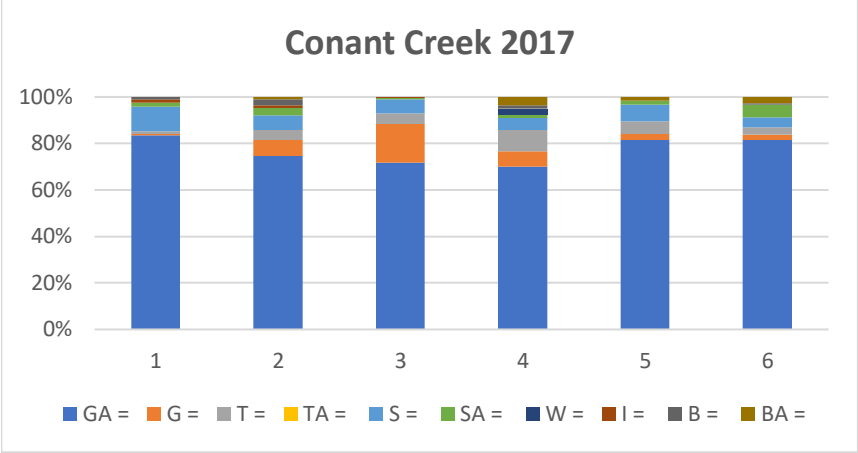


TWOMILE CREEK 2016 PERCENTAGES						
GA =	50.39	52.68	32.78	20.88	43.66	57.37
G =	1.04	1.13	7.16	11.81	8.17	7.77
T =	32.64	30.99	25.34	18.96	14.37	13.40
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.92	1.96	6.06	16.37	7.27	3.02
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	1.28	5.91	20.31	24.54	9.50	3.54
I =	0.43	0.45	0.47	2.41	12.11	10.63
B =	3.63	2.94	0.46	0.00	0.00	0.22
BA =	5.56	0.91	1.84	0.23	0.00	0.44

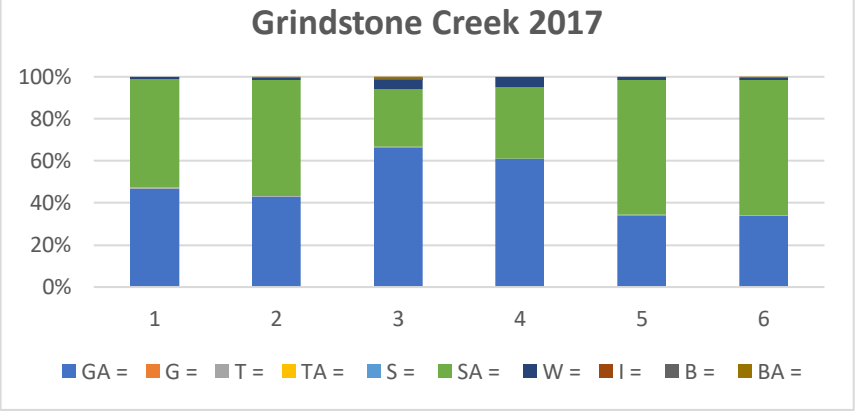


CROOKED RIVER BASIN:

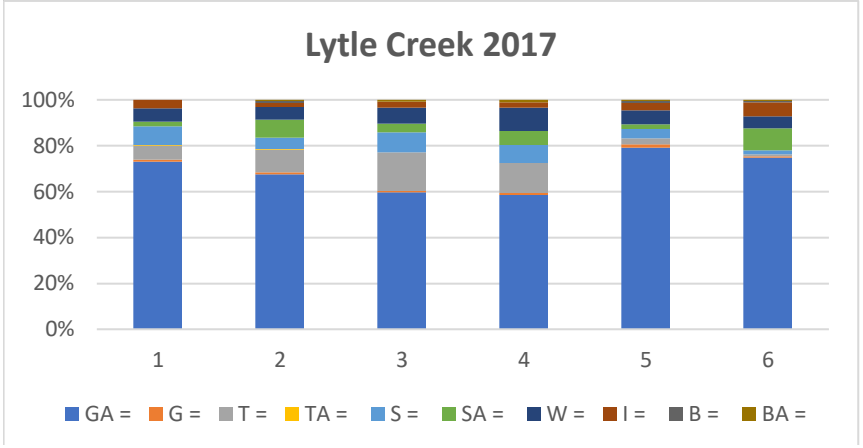
CONANT CREEK 2017 PERCENTAGES						
GA =	83.59	74.65	71.66	70.05	81.48	81.62
G =	0.51	6.91	16.58	6.60	2.65	2.16
T =	1.03	4.15	4.81	9.14	5.29	3.24
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	10.77	6.45	5.88	5.08	7.41	4.32
SA =	1.54	3.23	0.53	1.52	1.59	5.41
W =	0.00	0.00	0.00	2.54	0.00	0.00
I =	1.54	0.92	0.53	0.00	0.00	0.00
B =	1.03	2.76	0.00	1.52	0.00	0.54
BA =	0.00	0.92	0.00	3.55	1.59	2.70



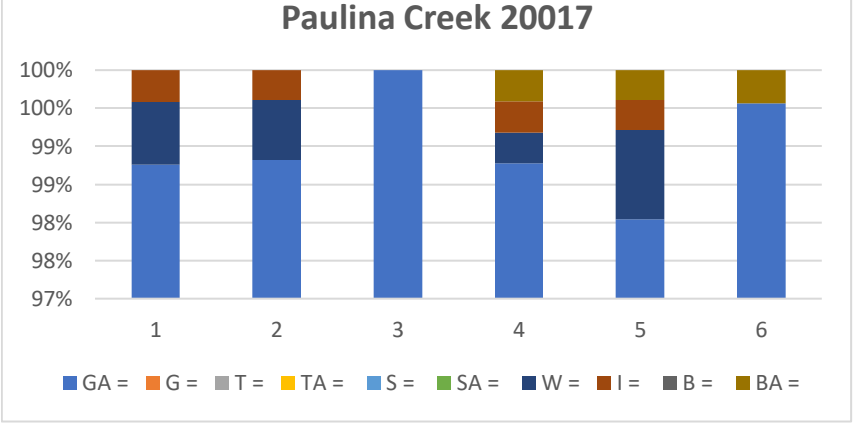
GRINDSTONE CREEK 2017 PERCENTAGES						
GA =	46.80	43.13	66.50	60.93	34.07	33.70
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	0.58	0.27	0.25	0.00	0.28	0.28
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	0.00	0.00
SA =	51.45	54.99	27.41	34.15	64.27	64.62
W =	1.16	1.35	4.31	4.91	1.39	0.84
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.51	0.00	0.00	0.00
BA =	0.00	0.27	1.02	0.00	0.00	0.56



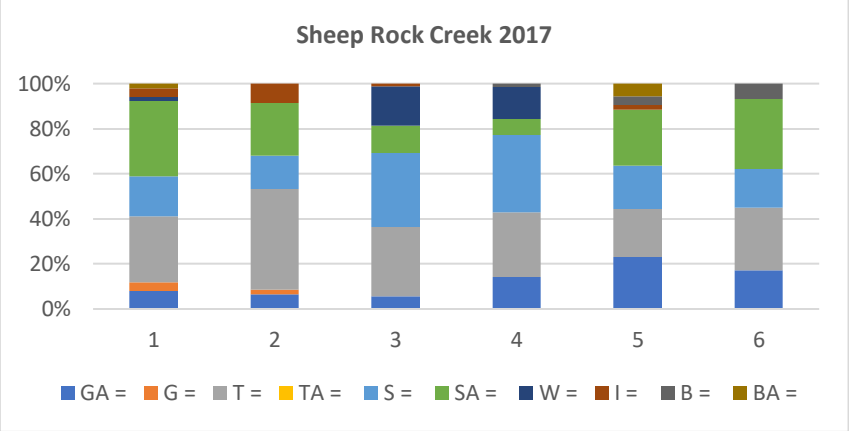
LYTLE CREEK 2017 PERCENTAGES						
GA =	73.09	67.39	59.75	58.53	79.28	74.70
G =	0.80	0.87	0.41	0.78	1.35	0.80
T =	6.02	10.00	17.01	13.18	2.70	0.80
TA =	0.40	0.43	0.00	0.00	0.00	0.00
S =	8.03	4.78	8.71	7.75	4.05	1.61
SA =	2.01	7.83	3.73	6.20	1.80	9.64
W =	6.02	5.65	7.05	10.08	6.31	5.22
I =	3.61	1.74	2.49	2.33	3.15	6.02
B =	0.00	0.87	0.00	0.00	0.90	0.80
BA =	0.00	0.43	0.83	1.16	0.45	0.40



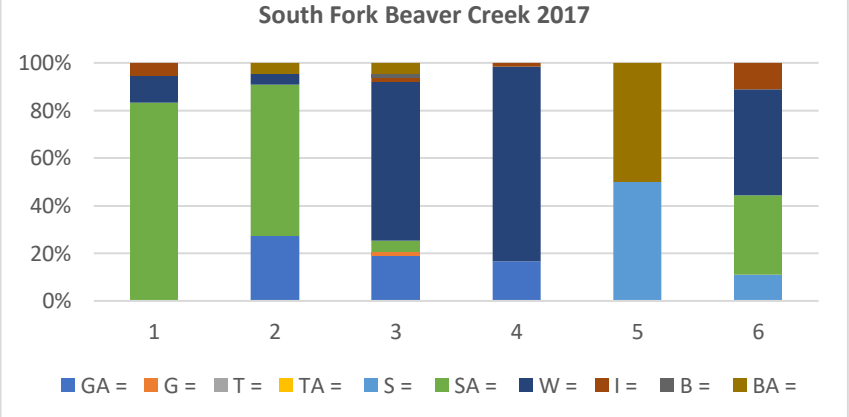
PAULINA CREEK 2017 PERCENTAGES						
GA =	98.76	98.82	100.00	98.78	98.04	99.56
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	0.00	0.00
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.83	0.79	0.00	0.41	1.18	0.00
I =	0.41	0.39	0.00	0.41	0.39	0.00
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	0.00	0.00	0.00	0.41	0.39	0.44



SHEEP ROCK CREEK 2017 PERCENTAGES						
GA =	7.84	6.38	5.49	14.29	23.08	17.24
G =	3.92	2.13	0.00	0.00	0.00	0.00
T =	29.41	44.68	30.77	28.57	21.15	27.59
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	17.65	14.89	32.97	34.29	19.23	17.24
SA =	33.33	23.40	12.09	7.14	25.00	31.03
W =	1.96	0.00	17.58	14.29	0.00	0.00
I =	3.92	8.51	1.10	0.00	1.92	0.00
B =	0.00	0.00	0.00	1.43	3.85	6.90
BA =	1.96	0.00	0.00	0.00	5.77	0.00

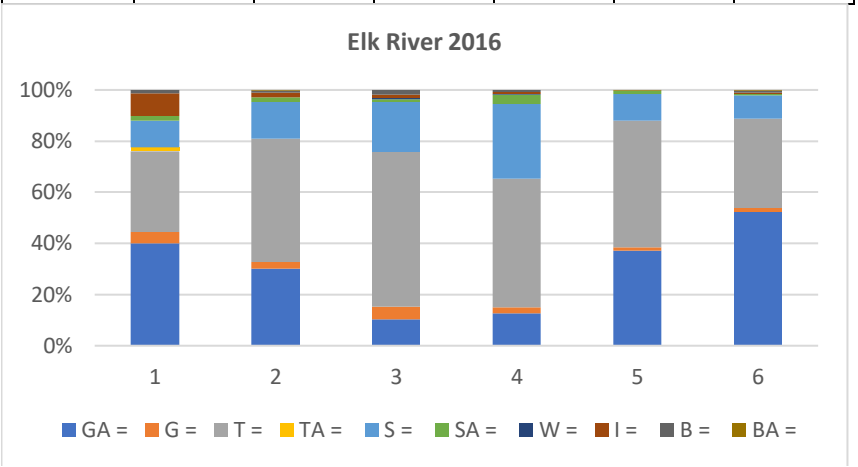


SOUTH FORK BEAVER CREEK 2017 PERCENTAGES						
GA =	30.77	27.27	19.05	16.67	0.00	0.00
G =	0.00	0.00	1.59	0.00	0.00	0.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	50.00	11.11
SA =	57.69	63.64	4.76	0.00	0.00	33.33
W =	7.69	4.55	66.67	81.67	0.00	44.44
I =	3.85	0.00	1.59	1.67	0.00	11.11
B =	0.00	0.00	1.59	0.00	0.00	0.00
BA =	0.00	4.55	4.76	0.00	50.00	0.00

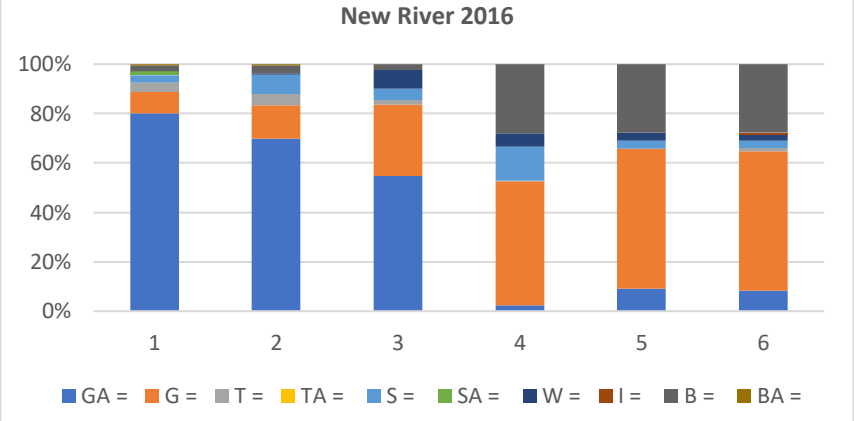


CURRY BASIN:

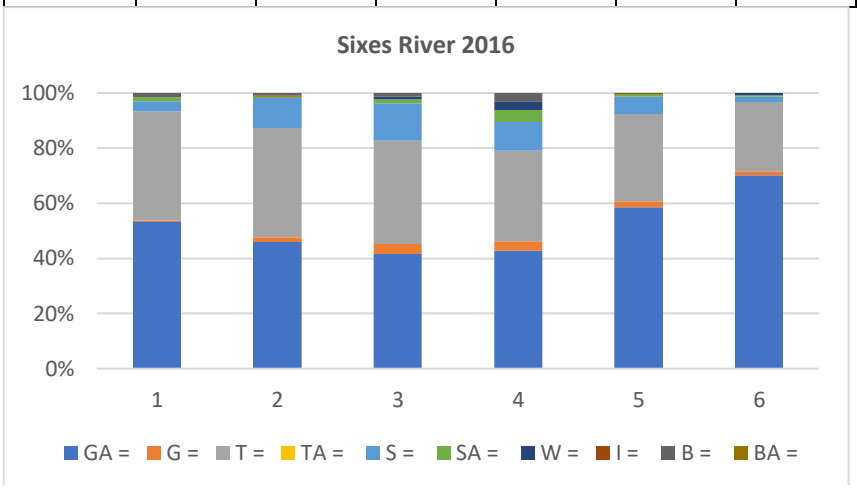
ELK RIVER 2016 PERCENTAGES						
GA =	40.14	30.00	10.34	12.77	37.07	52.20
G =	4.23	2.86	4.83	2.19	1.36	1.69
T =	31.69	48.21	60.69	50.36	49.66	34.92
TA =	1.41	0.00	0.00	0.00	0.00	0.00
S =	10.56	14.29	19.31	29.20	10.20	9.15
SA =	1.76	1.79	1.03	3.65	1.36	0.34
W =	0.00	0.00	0.69	0.36	0.00	0.00
I =	8.80	1.79	1.38	0.73	0.00	0.68
B =	1.41	0.71	1.72	0.73	0.00	0.68
BA =	0.00	0.36	0.00	0.00	0.34	0.34



NEW RIVER 2016 PERCENTAGES						
GA =	80.20	69.77	54.72	2.26	9.05	8.40
G =	8.42	13.49	28.77	50.23	56.67	56.30
T =	3.96	4.65	1.89	0.45	0.00	1.26
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.97	7.91	4.72	13.57	3.33	2.94
SA =	1.49	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.47	7.55	5.43	3.33	2.52
I =	0.00	0.00	0.00	0.00	0.00	0.84
B =	2.48	3.26	2.36	28.05	27.62	27.73
BA =	0.50	0.47	0.00	0.00	0.00	0.00

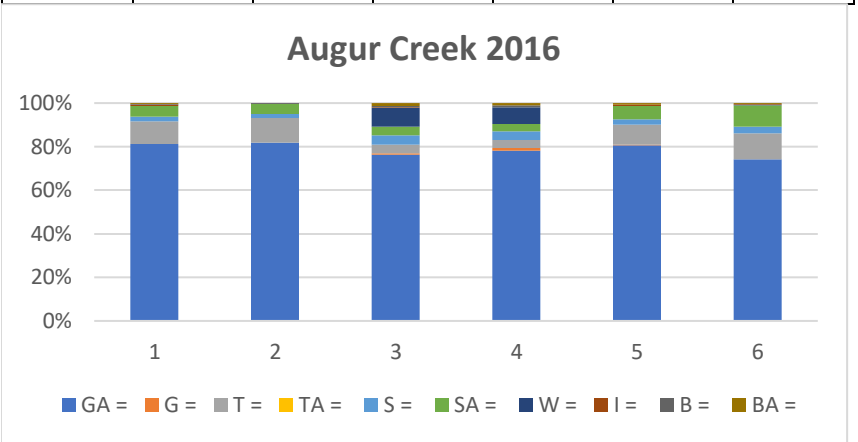


SIXES RIVER 2016 PERCENTAGES						
GA =	53.16	45.95	41.59	42.79	58.48	70.23
G =	0.42	1.80	3.74	3.49	2.23	1.40
T =	39.66	39.64	37.38	32.75	31.70	25.12
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.80	10.81	13.55	10.48	6.25	1.86
SA =	1.27	0.45	1.40	4.37	0.89	0.47
W =	0.00	0.00	0.93	3.06	0.00	0.93
I =	0.00	0.45	0.00	0.00	0.45	0.00
B =	1.69	0.90	1.40	3.06	0.00	0.00
BA =	0.00	0.00	0.00	0.00	0.00	0.00

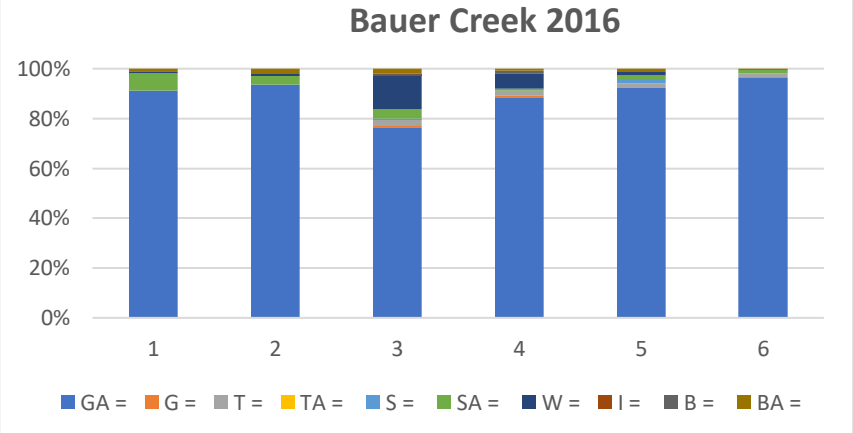


GOOSE/SUMMER LAKES BASIN:

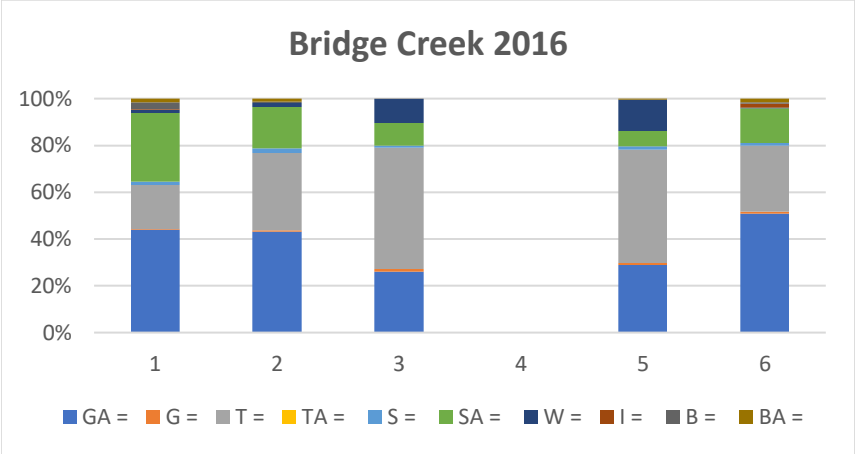
AUGUR CREEK 2016 PERCENTAGES						
GA =	81.12	81.95	76.21	78.15	80.48	74.28
G =	0.00	0.00	0.64	1.32	0.34	0.00
T =	10.49	11.19	4.18	3.64	9.25	11.96
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.10	1.81	4.18	3.97	2.40	2.90
SA =	4.90	4.69	3.86	3.31	6.16	9.78
W =	0.00	0.00	8.68	7.62	0.00	0.36
I =	0.70	0.00	0.32	0.00	0.68	0.36
B =	0.35	0.36	0.64	0.99	0.00	0.00
BA =	0.35	0.00	1.29	0.99	0.68	0.36



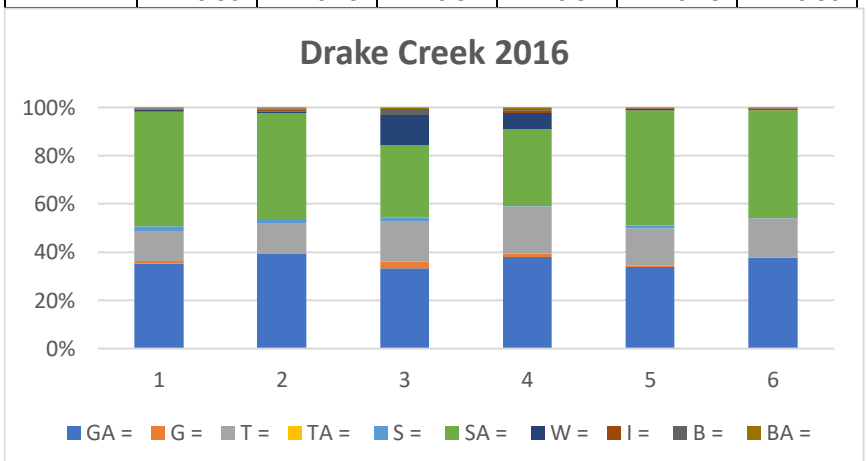
BAUER CREEK 2016 PERCENTAGES						
GA =	91.13	93.47	76.56	88.56	92.27	96.62
G =	0.00	0.00	0.48	0.74	0.00	0.00
T =	0.00	0.00	2.39	1.85	1.82	1.45
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.48	0.00	1.36	0.00
SA =	6.90	3.67	3.83	0.74	1.82	1.45
W =	0.99	0.82	13.40	6.27	1.36	0.00
I =	0.00	0.00	0.48	0.00	0.00	0.00
B =	0.00	0.00	0.48	1.11	0.00	0.00
BA =	0.99	2.04	1.91	0.74	1.36	0.48



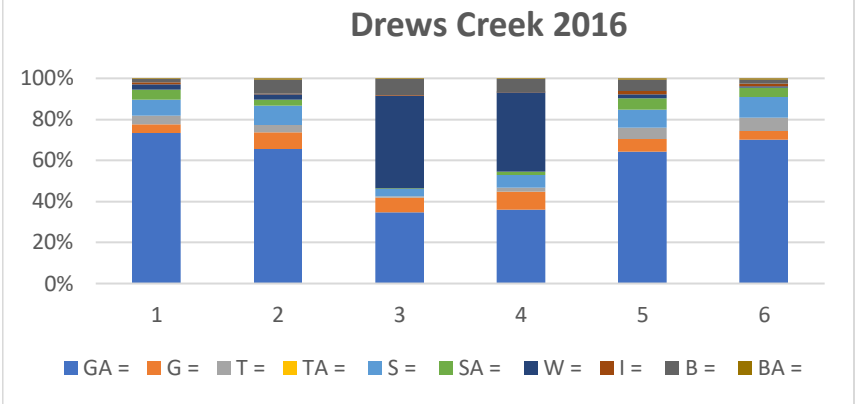
BRIDGE CREEK 2016 PERCENTAGES						
GA =	44.03	43.14	26.00	29.01	50.97	56.16
G =	0.34	0.65	1.14	0.83	0.65	0.00
T =	18.77	33.01	52.00	48.34	28.39	20.29
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.37	1.96	0.86	1.38	0.97	1.81
SA =	29.35	17.65	9.71	6.63	14.84	17.39
W =	1.37	1.63	10.00	13.26	0.32	0.72
I =	0.34	0.00	0.00	0.00	1.61	0.72
B =	2.73	0.65	0.29	0.00	0.65	1.45
BA =	1.71	1.31	0.00	0.55	1.61	1.45



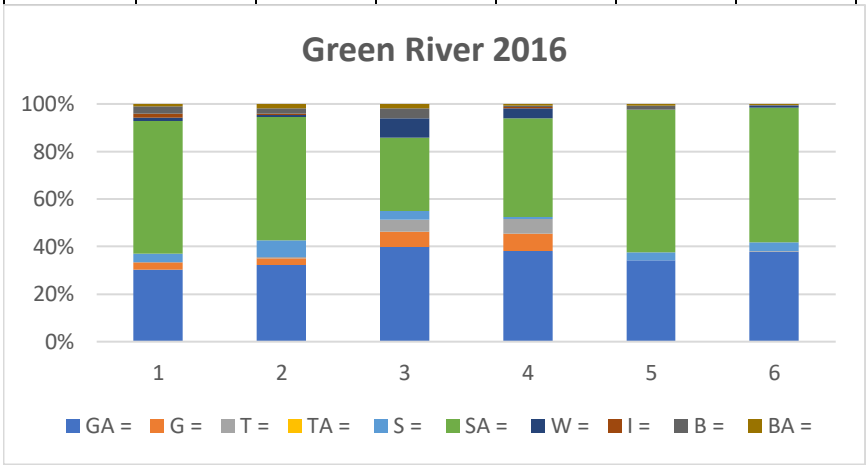
DRAKE CREEK 2016 PERCENTAGES						
GA =	35.12	39.42	33.24	37.89	33.89	37.80
G =	1.19	0.29	2.87	1.42	0.56	0.00
T =	12.50	12.17	16.62	19.66	15.41	16.16
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.79	1.74	1.43	0.57	1.12	0.61
SA =	47.62	44.06	30.37	31.62	47.90	44.21
W =	0.89	0.58	12.32	6.55	0.56	0.00
I =	0.30	0.87	0.00	1.14	0.28	0.61
B =	0.30	0.58	2.58	0.57	0.00	0.30
BA =	0.30	0.29	0.57	0.57	0.28	0.30



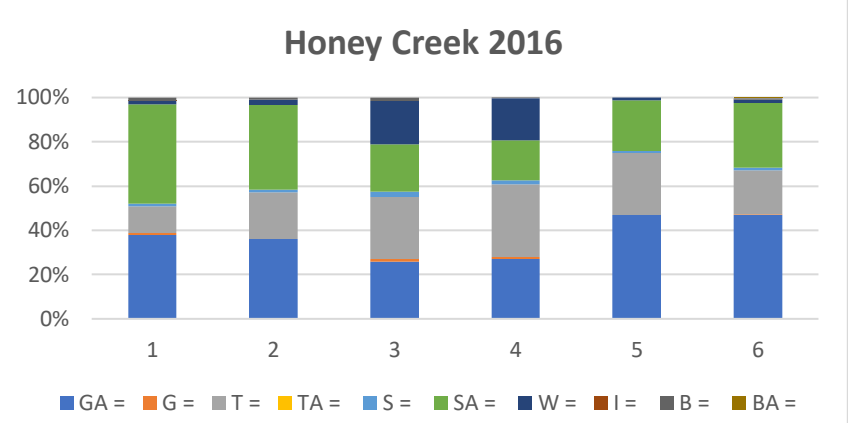
DREWS CREEK 2016 PERCENTAGES						
GA =	73.46	65.45	34.77	36.16	64.36	70.07
G =	4.12	8.37	7.00	8.48	6.11	4.43
T =	4.35	3.43	0.62	2.01	5.50	6.21
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	7.78	9.44	3.70	6.25	8.76	10.20
SA =	4.81	2.79	0.41	1.56	5.50	4.66
W =	2.52	2.79	45.06	38.62	1.83	0.67
I =	1.14	0.21	0.21	0.22	1.63	1.33
B =	1.60	6.87	8.02	6.25	5.70	1.77
BA =	0.23	0.64	0.21	0.45	0.61	0.67



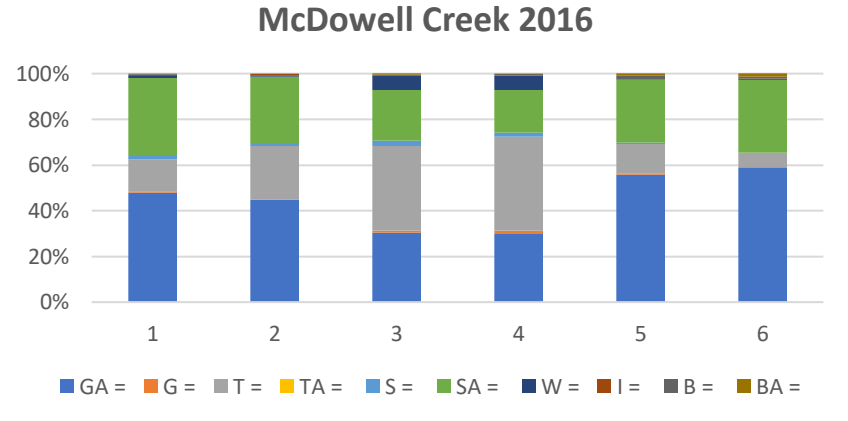
GREEN RIVER 2016 PERCENTAGES						
GA =	30.22	32.23	39.92	38.01	34.10	37.76
G =	3.24	2.93	6.32	7.53	0.00	0.00
T =	0.00	0.37	5.14	6.16	0.00	0.41
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.60	6.96	3.56	0.68	3.45	3.73
SA =	55.76	52.01	30.83	41.44	60.15	56.43
W =	1.44	0.73	8.30	4.45	0.00	0.83
I =	1.80	0.73	0.00	0.34	0.00	0.00
B =	2.88	2.20	3.95	0.68	1.53	0.41
BA =	1.08	1.83	1.98	0.68	0.77	0.41



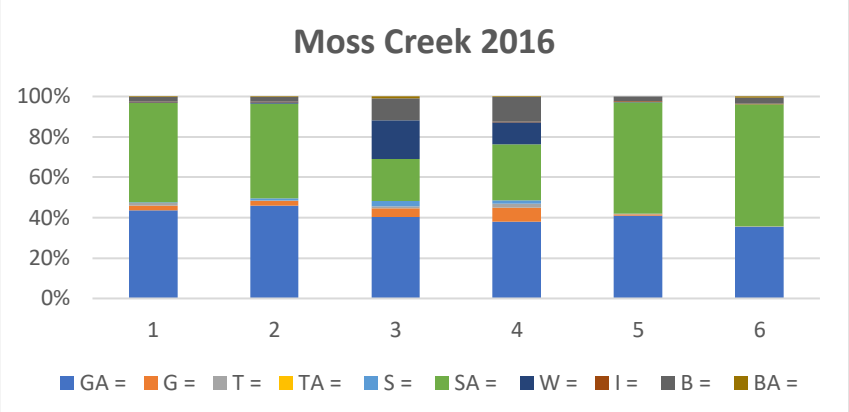
HONEY CREEK 2016 PERCENTAGES						
GA =	37.98	35.98	25.85	27.01	46.84	47.03
G =	0.96	0.00	1.13	0.95	0.00	0.24
T =	12.02	21.16	28.12	32.70	28.10	19.95
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.20	1.32	2.27	1.90	1.01	0.95
SA =	44.71	38.10	21.54	18.01	22.78	29.45
W =	1.44	2.38	19.50	19.19	1.27	1.43
I =	0.24	0.00	0.00	0.00	0.00	0.00
B =	1.44	1.06	1.59	0.24	0.00	0.48
BA =	0.00	0.00	0.00	0.00	0.00	0.48



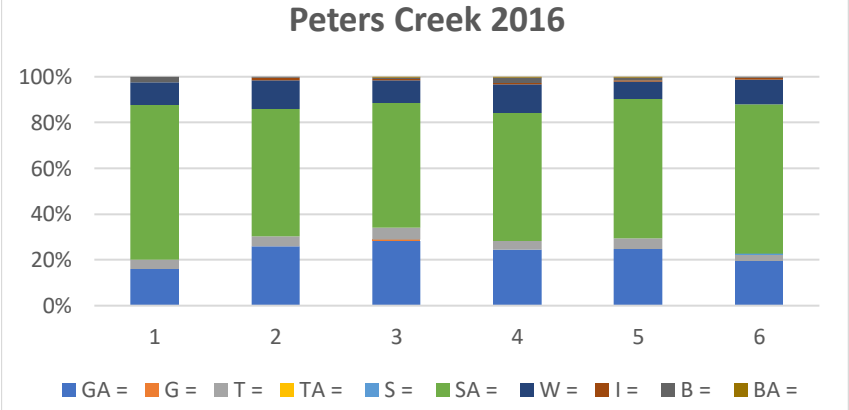
MCDOWELL CREEK 2016 PERCENTAGES						
GA =	48.03	44.71	30.29	29.78	55.90	58.86
G =	0.56	0.30	1.04	1.37	0.56	0.00
T =	13.76	23.26	37.08	41.26	12.64	6.65
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.69	0.91	2.35	1.64	0.56	0.00
SA =	33.99	29.61	21.93	18.85	27.53	31.65
W =	0.84	0.60	6.53	6.01	0.00	0.00
I =	0.56	0.30	0.00	0.27	0.28	0.63
B =	0.56	0.30	0.26	0.55	1.69	0.95
BA =	0.00	0.00	0.52	0.27	0.84	1.27



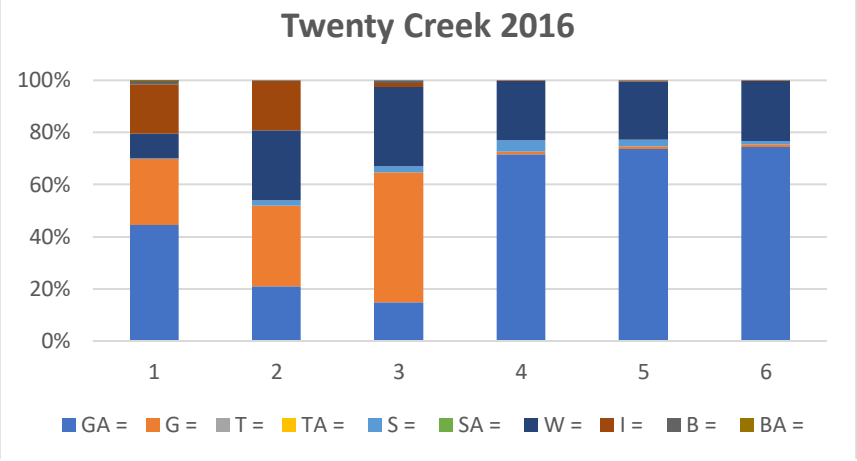
MOSS CREEK 2016 PERCENTAGES						
GA =	43.68	45.89	40.34	37.97	41.00	35.36
G =	2.30	2.39	4.26	6.95	0.55	0.00
T =	1.15	0.27	0.85	2.14	0.28	0.29
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.57	1.06	2.84	1.60	0.00	0.00
SA =	49.14	46.68	20.74	27.54	55.40	60.58
W =	0.29	0.80	19.03	10.96	0.28	0.00
I =	0.29	0.27	0.00	0.27	0.28	0.29
B =	2.30	2.39	11.08	12.30	2.22	2.90
BA =	0.29	0.27	0.85	0.27	0.00	0.58



PETERS CREEK 2016 PERCENTAGES						
GA =	16.10	25.98	28.22	24.41	24.87	19.44
G =	0.00	0.00	0.50	0.00	0.00	0.00
T =	3.90	4.41	5.45	3.76	4.57	2.78
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	0.00	0.46
SA =	67.80	55.39	54.46	55.87	60.91	65.28
W =	9.76	12.75	9.90	12.68	7.61	10.65
I =	0.00	0.98	0.50	0.47	0.51	0.93
B =	2.44	0.49	0.50	2.35	1.02	0.46
BA =	0.00	0.00	0.50	0.47	0.51	0.00

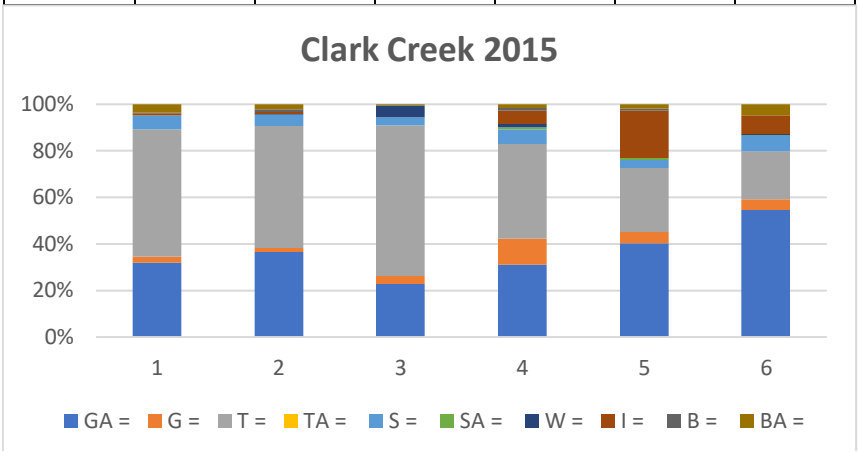


TWENTY CREEK 2016 PERCENTAGES						
GA =	44.44	20.91	14.87	71.71	73.66	74.44
G =	25.43	31.01	49.74	0.99	0.98	1.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.25	2.16	2.31	4.22	2.68	1.25
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	9.38	26.68	30.51	22.83	22.20	23.06
I =	19.01	18.99	1.54	0.25	0.24	0.25
B =	1.23	0.24	1.03	0.00	0.24	0.00
BA =	0.25	0.00	0.00	0.00	0.00	0.00

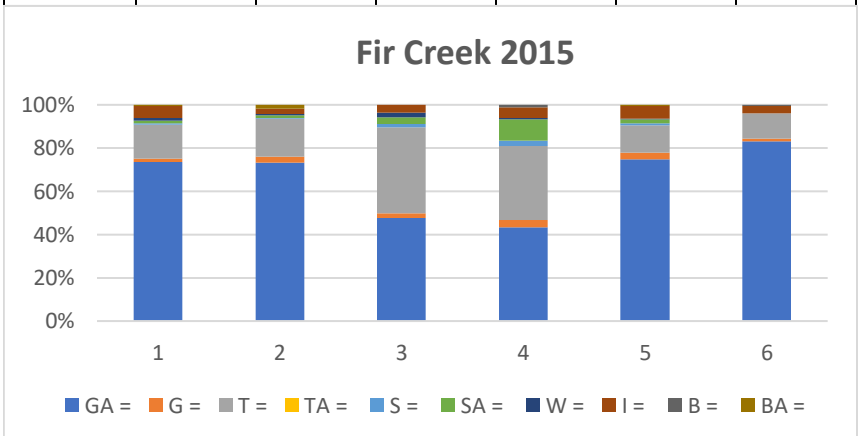


GRANDE RONDE

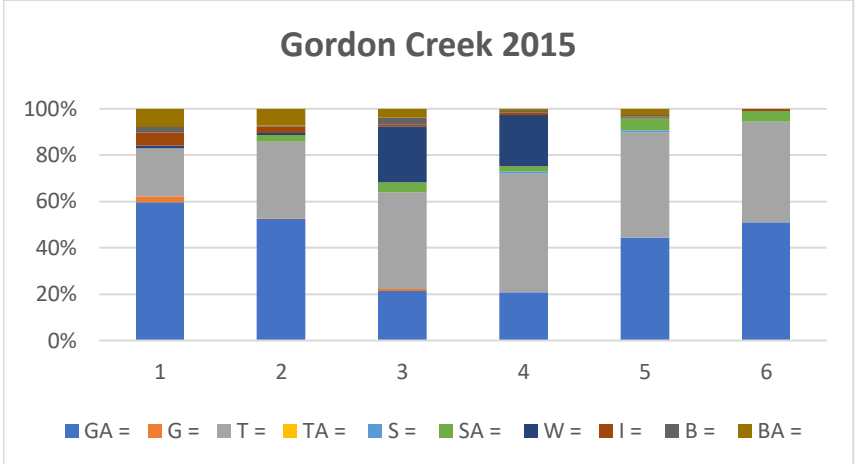
CLARK CREEK 2015 PERCENTAGES						
GA =	31.87	36.59	22.67	31.08	40.30	54.51
G =	2.79	1.63	3.64	11.16	4.85	4.72
T =	54.58	52.44	64.78	40.64	27.61	20.60
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	5.98	4.88	3.24	6.37	3.36	6.44
SA =	0.00	0.00	0.00	0.80	0.75	0.43
W =	0.00	0.41	4.86	1.59	0.00	0.43
I =	0.80	0.81	0.00	5.58	20.52	8.15
B =	0.40	1.22	0.40	1.20	0.75	0.00
BA =	3.59	2.03	0.40	1.59	1.87	4.72



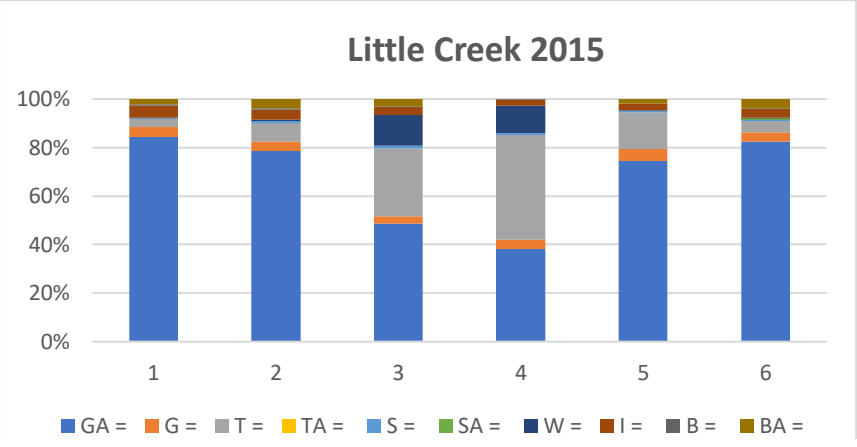
FIR CREEK 2015 PERCENTAGES						
GA =	73.45	73.37	47.69	43.33	74.74	83.24
G =	1.69	2.72	2.05	3.33	3.16	1.12
T =	15.82	17.39	40.00	34.44	12.63	11.73
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.56	0.54	1.54	2.22	1.05	0.00
SA =	1.13	1.09	3.08	10.00	1.58	0.00
W =	1.13	0.54	2.05	0.56	0.53	0.00
I =	5.65	2.72	3.59	5.00	5.79	3.35
B =	0.00	0.00	0.00	1.11	0.00	0.56
BA =	0.56	1.63	0.00	0.00	0.53	0.00



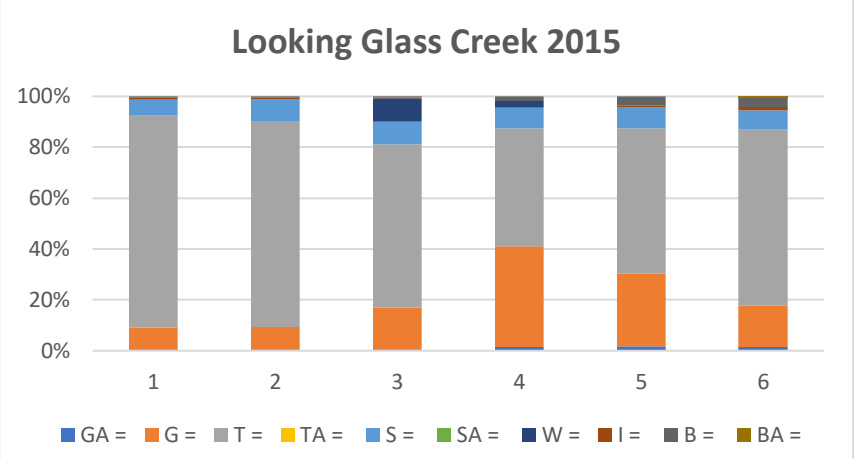
GORDON CREEK 2015 PERCENTAGES						
GA =	59.71	52.38	21.33	20.74	44.39	51.01
G =	2.43	0.48	0.95	0.00	0.00	0.00
T =	20.87	32.86	41.71	51.15	45.33	43.43
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.92	0.93	0.00
SA =	0.00	2.86	4.27	2.30	5.14	4.55
W =	0.97	0.95	24.17	22.12	0.47	0.00
I =	5.83	2.86	0.95	1.38	0.47	1.01
B =	2.43	0.48	2.84	0.46	0.47	0.00
BA =	7.77	7.14	3.79	0.92	2.80	0.00



LITTLE CREEK 2015 PERCENTAGES						
GA =	4.13	3.68	3.29	3.92	4.83	3.90
G =	3.24	7.63	27.95	43.08	15.28	4.46
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.29	1.05	1.10	0.78	0.54	0.56
S =	0.00	0.00	0.00	0.00	0.00	0.56
SA =	0.29	0.53	12.60	11.49	0.27	0.28
W =	5.01	3.95	3.29	2.35	2.68	3.62
I =	0.59	0.53	0.27	0.26	0.00	0.28
B =	2.06	3.95	3.01	0.00	1.88	3.90
BA =	4.13	3.68	3.29	3.92	4.83	3.90

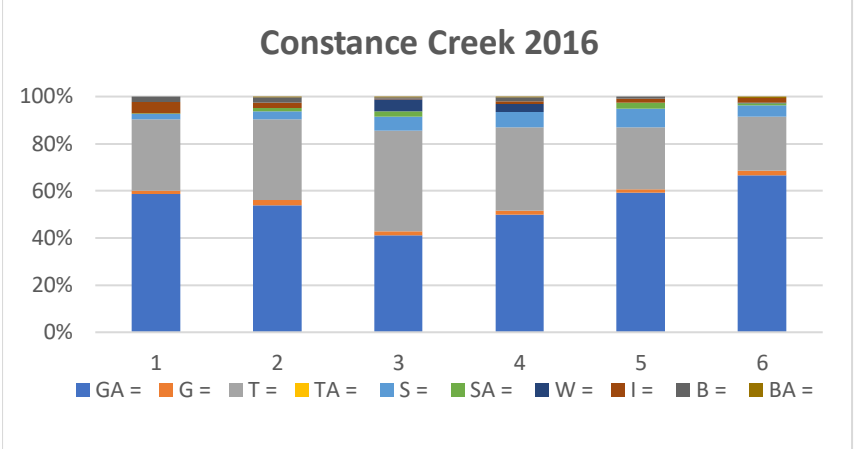


LOOKING GLASS CREEK 2015 PERCENTAGES						
GA =	0.00	0.00	0.00	1.46	1.80	1.40
G =	8.96	9.22	17.04	39.51	28.38	16.36
T =	83.49	81.07	64.13	46.34	57.21	69.16
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.13	8.74	8.97	8.29	8.56	7.48
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	8.97	2.44	0.00	0.00
I =	0.94	0.49	0.45	0.00	0.45	1.40
B =	0.47	0.49	0.45	1.95	3.60	3.74
BA =	0.00	0.00	0.00	0.00	0.00	0.47

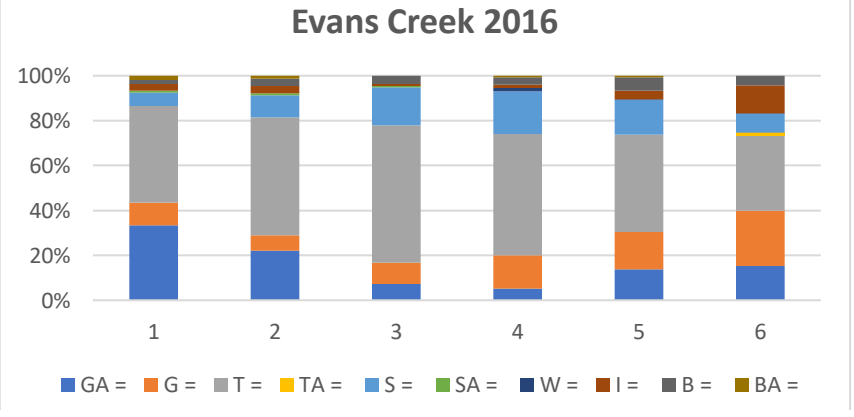


INLAND ROGUE:

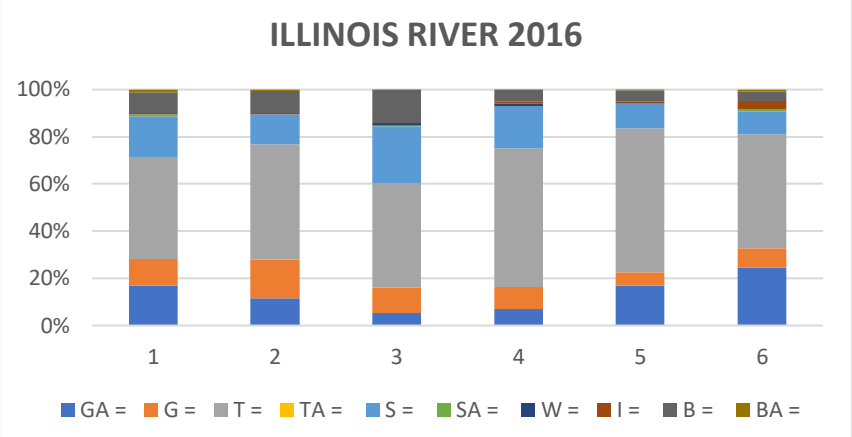
CONSTANCE CREEK 2016 PERCENTAGES						
GA =	58.63	53.72	41.10	49.84	59.18	66.67
G =	1.30	2.27	1.62	1.62	1.36	1.96
T =	30.29	34.30	42.72	35.60	26.53	22.88
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.28	3.56	6.15	6.47	7.82	4.90
SA =	0.33	1.29	2.27	0.00	2.38	0.65
W =	0.00	0.00	4.85	3.24	0.00	0.33
I =	4.89	2.27	0.32	1.29	1.70	1.96
B =	2.28	2.27	0.65	1.62	1.02	0.00
BA =	0.00	0.32	0.32	0.32	0.00	0.65



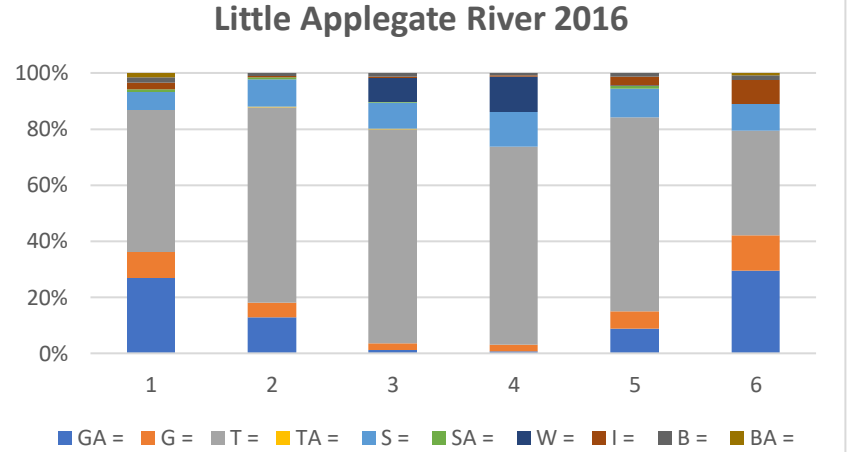
EVANS CREEK 2016 PERCENTAGES						
GA =	33.23	22.12	7.12	5.21	13.90	15.34
G =	10.13	6.85	9.60	14.72	16.62	24.60
T =	43.04	52.65	61.30	53.99	43.20	33.23
TA =	0.00	0.00	0.00	0.00	0.00	1.60
S =	6.01	9.66	16.72	19.02	15.41	8.31
SA =	0.95	0.93	0.62	0.00	0.00	0.00
W =	0.00	0.00	0.00	1.53	0.30	0.32
I =	2.85	3.12	0.93	1.53	3.93	12.46
B =	1.90	3.43	3.72	3.37	6.04	4.15
BA =	1.90	1.25	0.00	0.61	0.60	0.00



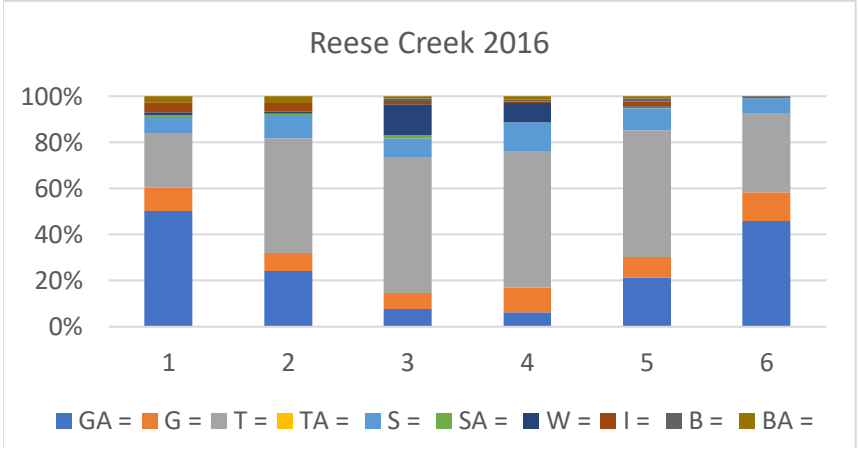
ILLINOIS RIVER 2016 PERCENTAGES						
GA =	16.76	11.60	5.41	6.96	16.94	24.44
G =	11.47	16.30	10.51	9.28	5.56	8.33
T =	42.94	48.90	44.44	58.84	61.11	48.33
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	17.35	12.71	24.02	17.68	10.28	9.44
SA =	0.88	0.00	0.30	0.00	0.00	1.11
W =	0.00	0.00	1.20	1.16	0.00	0.00
I =	0.59	0.55	0.00	0.87	1.11	3.61
B =	8.82	9.39	14.11	5.22	4.72	3.89
BA =	1.18	0.55	0.00	0.00	0.28	0.83



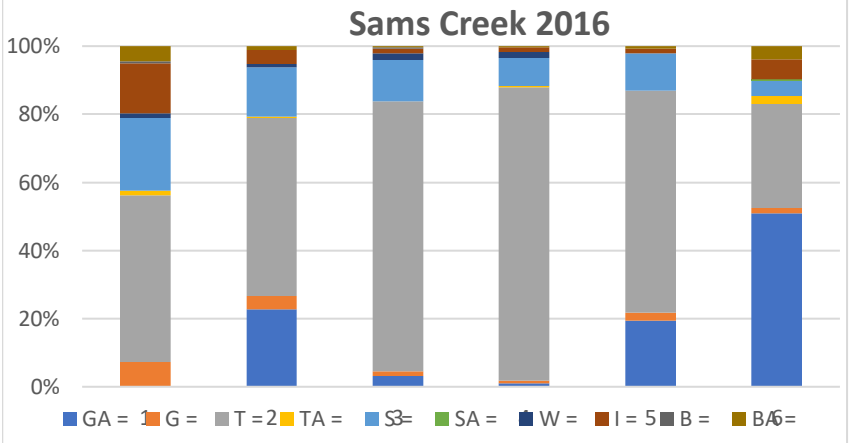
LITTLE APPLEGATE RIVER 2016 PERCENTAGES						
GA =	26.93	12.90	1.22	0.62	8.72	29.52
G =	9.29	5.16	2.44	2.48	6.23	12.65
T =	50.46	69.68	76.22	70.50	69.16	37.35
TA =	0.00	0.32	0.30	0.00	0.00	0.00
S =	6.50	9.68	9.15	12.42	10.28	9.34
SA =	0.93	0.65	0.30	0.00	0.93	0.00
W =	0.00	0.00	8.54	12.73	0.31	0.00
I =	2.48	0.65	0.61	0.31	3.12	8.73
B =	1.86	0.97	1.22	0.93	1.25	1.51
BA =	1.55	0.00	0.00	0.00	0.00	0.90



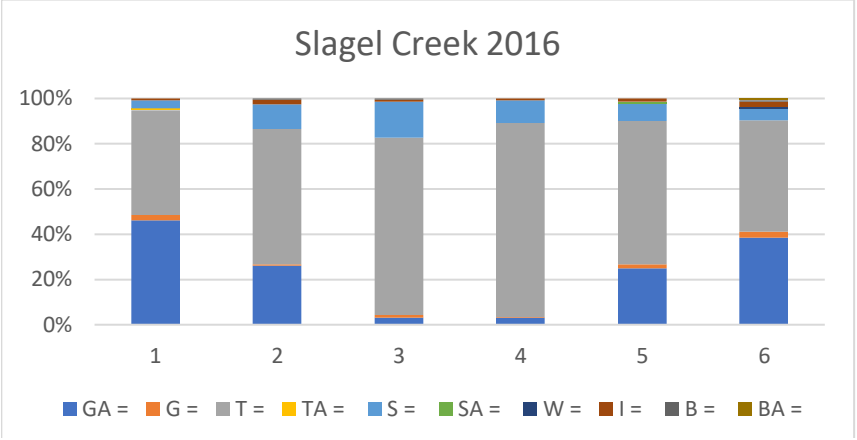
REESE CREEK 2016 PERCENTAGES						
GA =	50.22	24.06	7.79	6.16	21.15	45.87
G =	10.22	8.02	6.93	10.90	9.13	12.39
T =	23.56	49.53	58.87	59.24	54.81	34.40
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	7.11	10.38	8.23	12.32	9.62	6.42
SA =	0.89	0.47	1.30	0.00	0.48	0.00
W =	0.89	0.94	13.42	8.53	0.48	0.00
I =	4.44	3.77	1.30	0.47	1.92	0.00
B =	0.00	0.00	1.30	0.95	1.44	0.92
BA =	2.67	2.83	0.87	1.42	0.96	0.00



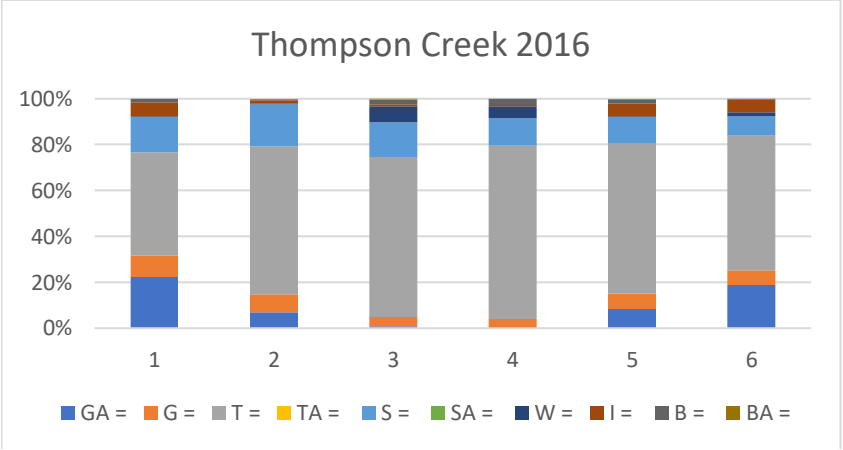
SAMS CREEK 2016 PERCENTAGES						
GA =	50.18	22.76	3.10	1.07	19.31	50.94
G =	3.64	3.79	1.38	0.71	2.41	1.51
T =	24.36	52.41	79.31	86.07	65.17	30.57
TA =	0.73	0.34	0.00	0.36	0.00	2.26
S =	10.55	14.48	12.07	8.21	11.03	4.53
SA =	0.00	0.00	0.00	0.00	0.00	0.38
W =	0.73	1.03	2.07	1.79	0.00	0.00
I =	7.27	4.14	1.38	1.43	1.38	6.04
B =	0.36	0.00	0.34	0.00	0.00	0.00
BA =	2.18	1.03	0.34	0.36	0.69	3.77



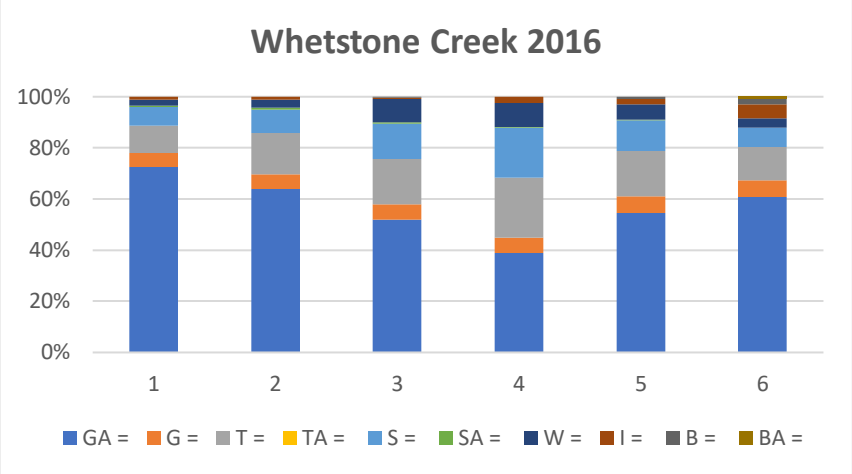
SLAGEL CREEK 2016 PERCENTAGES						
GA =	46.29	25.97	2.98	3.00	24.89	38.56
G =	2.18	0.87	1.28	0.43	1.75	2.54
T =	46.29	59.74	78.30	85.84	63.32	49.15
TA =	0.87	0.00	0.00	0.00	0.00	0.00
S =	3.49	10.82	16.17	9.87	7.86	5.51
SA =	0.00	0.00	0.00	0.00	0.87	0.00
W =	0.00	0.00	0.00	0.00	0.00	0.42
I =	0.87	2.16	0.85	0.86	1.31	2.54
B =	0.00	0.43	0.43	0.00	0.00	0.42
BA =	0.00	0.00	0.00	0.00	0.00	0.85



THOMPSON CREEK 2016 PERCENTAGES						
GA =	22.45	6.87	0.85	0.57	8.38	18.77
G =	9.04	7.76	3.97	3.41	6.59	6.46
T =	45.19	64.78	69.69	75.57	65.57	58.77
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	15.45	18.21	15.30	11.93	11.38	8.31
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.29	0.30	6.80	5.11	0.30	1.85
I =	6.12	1.49	0.85	0.57	5.69	5.54
B =	1.46	0.30	2.27	2.84	1.80	0.31
BA =	0.00	0.30	0.28	0.00	0.30	0.00

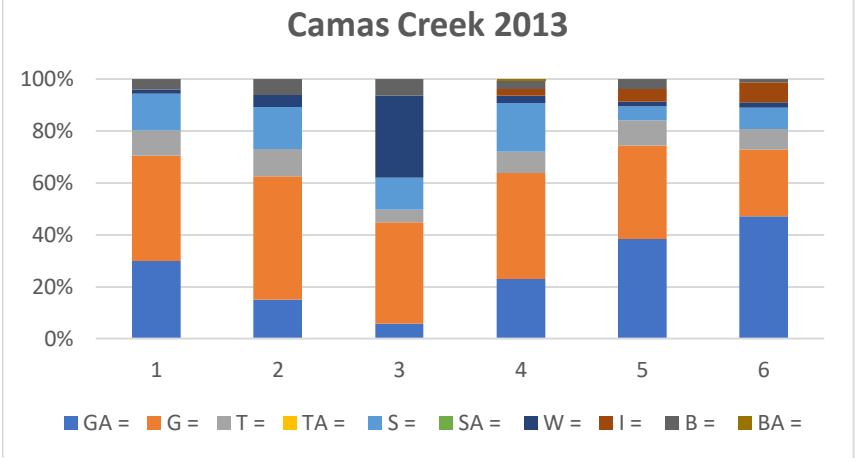


WHETSTONE CREEK 2016 PERCENTAGES						
GA =	72.65	63.98	52.02	38.84	54.60	60.87
G =	5.29	5.59	5.92	6.09	6.35	6.38
T =	10.88	16.15	17.76	23.48	17.78	13.04
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	7.06	9.32	13.71	19.42	12.06	7.54
SA =	0.59	0.62	0.62	0.29	0.32	0.00
W =	2.35	3.11	9.03	9.57	6.03	3.77
I =	1.18	1.24	0.62	2.32	1.90	5.51
B =	0.00	0.00	0.31	0.00	0.95	2.03
BA =	0.00	0.00	0.00	0.00	0.00	0.87

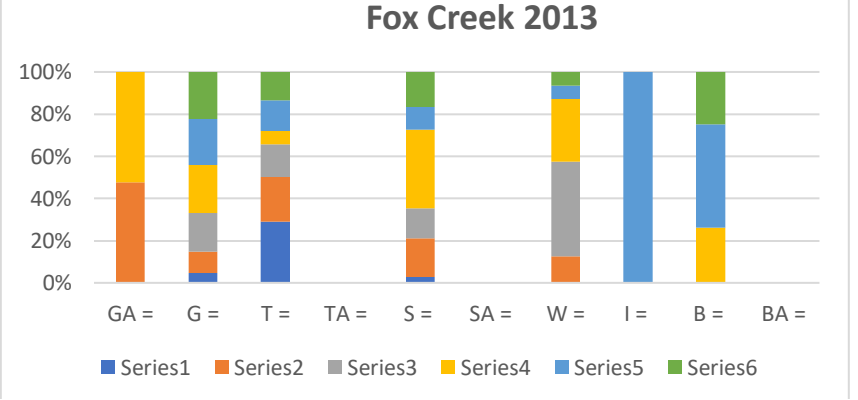


JOHN DAY:

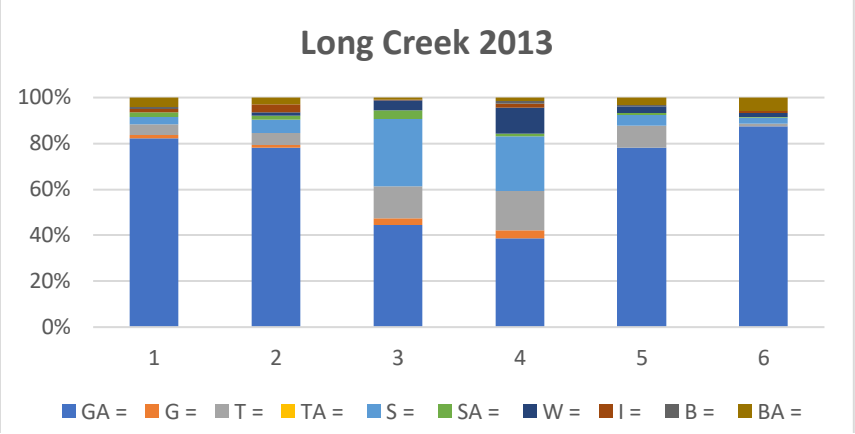
CAMAS CREEK 2013 PERCENTAGES						
GA =	28.06	13.89	5.04	21.38	35.66	43.71
G =	38.13	44.44	34.53	37.93	33.57	23.84
T =	9.35	9.72	4.32	7.59	9.09	7.28
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	13.17	15.20	11.11	17.43	5.04	7.70
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	1.40	4.24	27.89	2.83	1.81	1.77
I =	0.00	0.00	0.00	2.36	4.52	7.08
B =	3.95	5.72	5.67	3.05	3.53	1.28
BA =	0.00	0.00	0.00	0.44	0.00	0.00



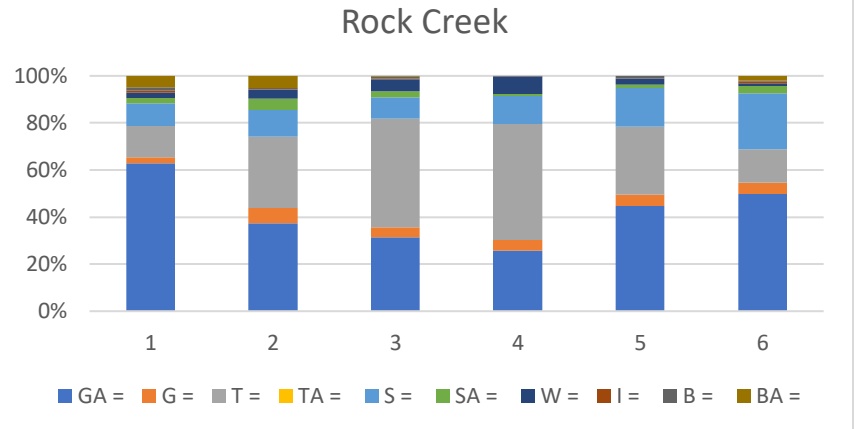
FOX CREEK 2013 PERCENTAGES						
GA =	0.00	0.78	0.00	0.86	0.00	0.00
G =	9.84	21.88	38.76	48.28	46.03	47.50
T =	88.52	64.84	47.29	19.83	44.44	40.83
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.64	10.87	8.53	22.25	6.35	10.00
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.93	3.26	2.16	0.46	0.48
I =	0.00	0.00	0.00	0.00	0.46	0.00
B =	0.00	0.00	0.00	0.48	0.90	0.46
BA =	0.00	0.00	0.00	0.00	0.00	0.00



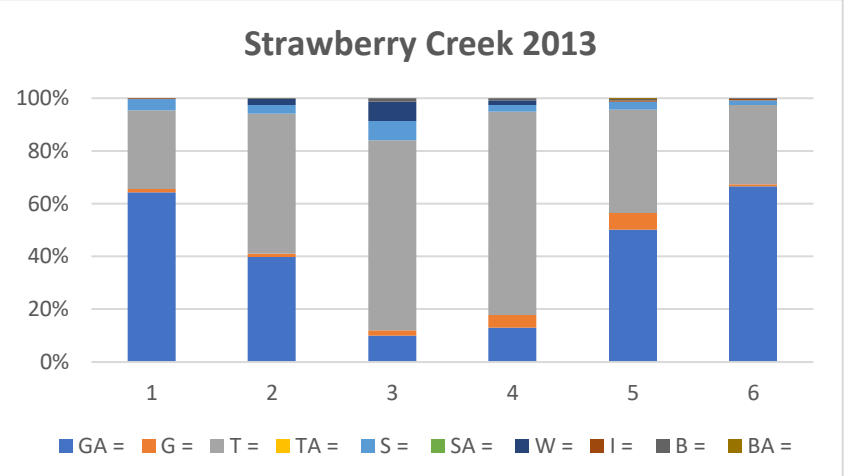
LONG CREEK 2013 PERCENTAGES						
GA =	78.03	72.89	40.23	34.94	73.81	82.63
G =	1.16	1.20	2.87	3.01	0.00	0.00
T =	4.62	4.82	12.64	15.66	8.93	1.20
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.79	5.44	26.61	21.40	4.55	2.40
SA =	1.98	1.67	3.22	0.98	0.83	0.40
W =	0.00	1.22	3.92	10.47	2.79	1.59
I =	1.56	3.27	0.44	1.37	0.00	0.80
B =	0.77	0.00	0.00	1.24	0.39	0.00
BA =	3.82	2.78	0.77	1.24	3.12	5.52



ROCK CREEK 2013 PERCENTAGES						
GA =	57.87	34.81	29.94	24.60	42.05	45.90
G =	2.25	6.08	3.95	4.28	4.55	4.37
T =	12.36	28.18	44.07	47.06	27.27	13.11
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	8.90	10.66	8.70	11.34	15.59	21.84
SA =	2.10	4.51	2.37	0.93	1.35	3.00
W =	2.00	3.20	4.71	6.85	2.40	0.81
I =	0.80	0.40	0.39	0.00	0.00	0.81
B =	1.16	0.38	0.76	0.36	1.13	0.37
BA =	4.59	4.90	0.38	0.00	0.00	1.84

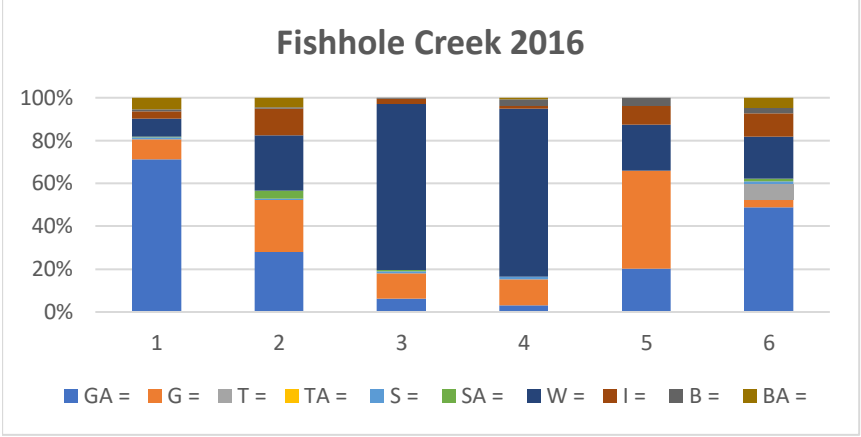


STRAWBERRY CREEK 2013 PERCENTAGES						
GA =	62.99	38.82	9.40	12.84	49.32	65.82
G =	1.30	1.32	2.01	4.73	6.08	0.63
T =	29.22	51.97	68.46	75.68	38.51	29.75
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.15	3.14	6.94	2.49	3.04	1.79
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	2.05	6.99	1.66	0.00	0.00
I =	0.40	0.00	0.00	0.00	0.41	0.39
B =	0.00	0.40	1.27	0.82	0.41	0.39
BA =	0.00	0.00	0.00	0.00	0.41	0.00

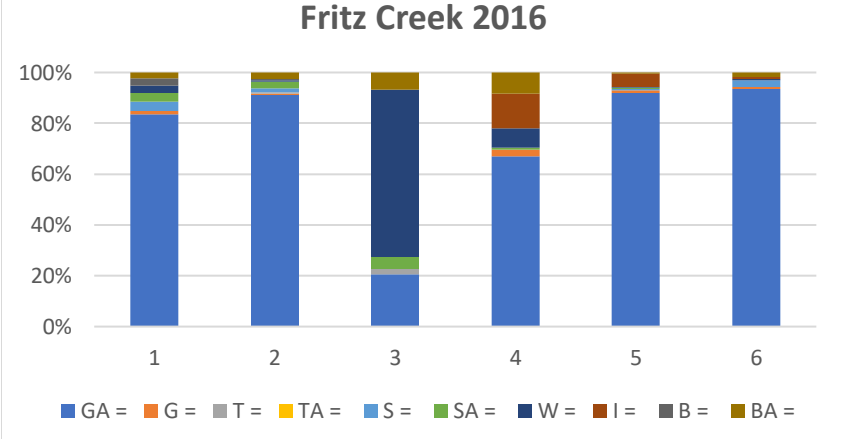


KLAMATH HEADWATER:

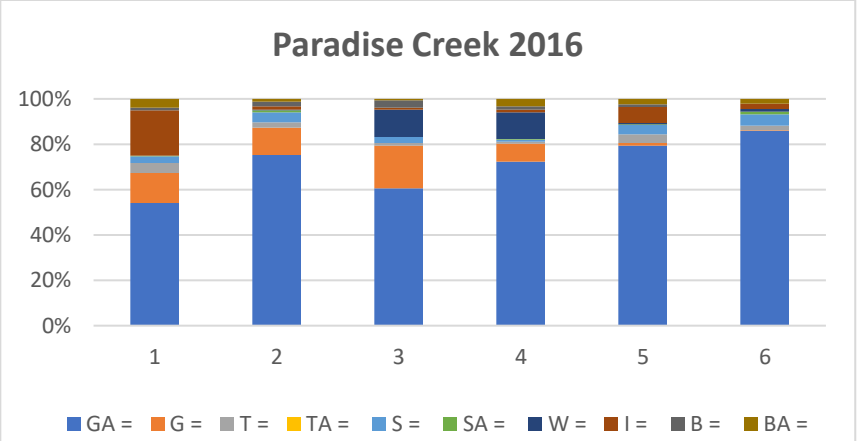
FISHHOLE CREEK 2016 PERCENTAGES						
GA =	71.32	27.94	6.18	3.14	20.25	48.78
G =	9.30	24.26	11.80	11.95	45.57	3.66
T =	0.00	0.00	0.00	0.00	0.00	7.32
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.78	0.74	1.12	1.26	0.00	1.22
SA =	0.39	3.68	0.56	0.00	0.00	1.22
W =	8.53	25.74	77.53	78.62	21.52	19.51
I =	3.49	12.50	2.25	1.26	8.86	10.98
B =	0.78	0.74	0.56	3.14	3.80	2.44
BA =	5.43	4.41	0.00	0.63	0.00	4.88



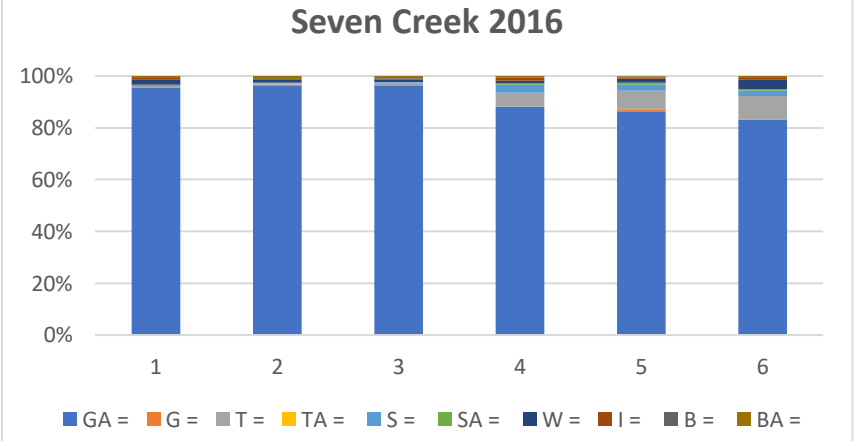
FRITZ CREEK 2016 PERCENTAGES						
GA =	83.63	91.19	20.45	66.96	91.88	93.51
G =	1.33	0.52	0.00	2.64	1.02	0.87
T =	0.00	0.52	2.27	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.54	1.55	0.00	0.00	0.51	2.60
SA =	3.54	2.59	4.55	0.88	0.51	0.00
W =	2.65	0.52	65.91	7.49	0.51	0.43
I =	0.00	0.00	0.00	13.66	5.08	0.87
B =	3.10	0.52	0.00	0.00	0.00	0.00
BA =	2.21	2.59	6.82	8.37	0.51	1.73



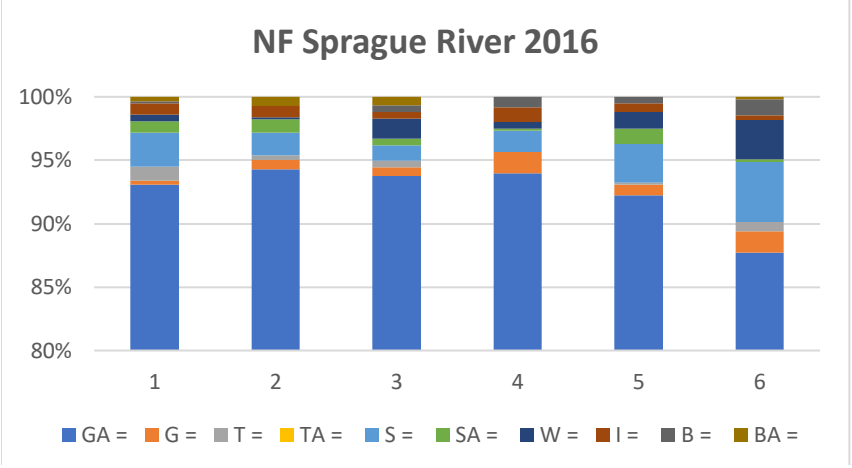
PARADISE CREEK 2016 PERCENTAGES						
GA =	54.02	75.32	60.67	72.40	79.42	85.83
G =	13.41	11.91	18.73	8.00	1.23	0.39
T =	4.21	2.55	1.12	0.80	3.70	1.97
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.07	4.26	2.62	0.80	4.12	5.12
SA =	0.38	0.85	0.00	0.40	0.41	1.18
W =	0.00	0.43	11.99	11.60	0.41	1.18
I =	19.92	1.28	1.12	1.20	7.00	2.36
B =	1.15	2.13	3.00	1.60	1.23	0.00
BA =	3.83	1.28	0.75	3.20	2.47	1.97



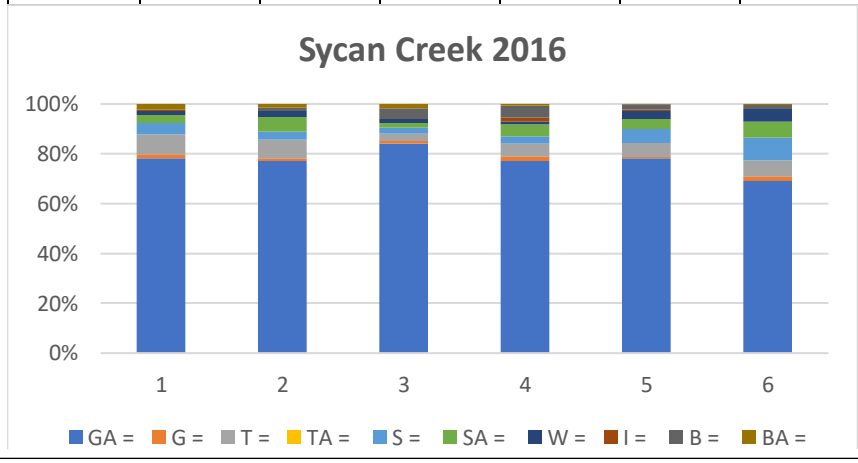
SEVEN CREEK 2016 PERCENTAGES						
GA =	95.36	96.40	96.35	88.14	86.42	83.07
G =	0.00	0.23	0.00	0.00	0.65	0.22
T =	0.66	0.68	1.15	5.53	7.33	8.91
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.22	0.23	0.19	2.96	2.37	2.23
SA =	0.44	0.00	0.00	0.59	0.65	0.45
W =	1.99	1.13	1.15	0.99	1.51	3.79
I =	0.44	0.23	0.19	1.38	0.65	0.67
B =	0.00	0.23	0.19	0.00	0.22	0.00
BA =	0.88	0.90	0.77	0.40	0.22	0.67



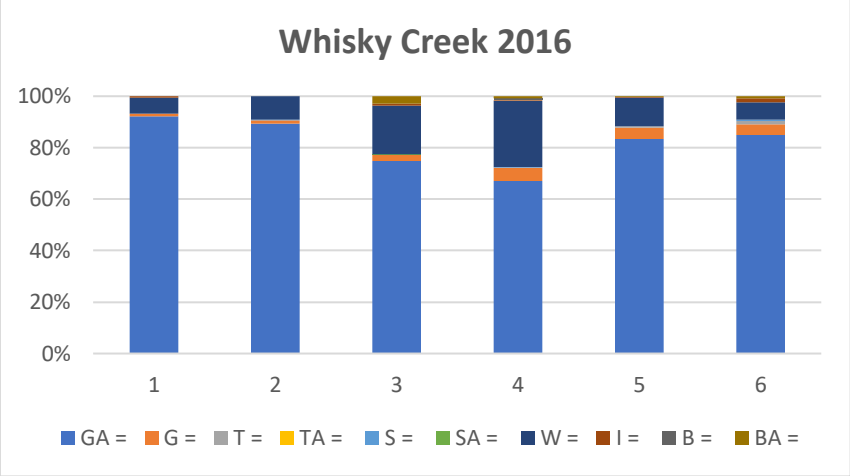
NF SPRAGUE RIVER 2016 PERCENTAGES						
GA =	93.06	94.31	93.74	93.97	92.24	87.73
G =	0.36	0.71	0.70	1.68	0.84	1.65
T =	1.07	0.36	0.52	0.00	0.17	0.73
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.67	1.78	1.22	1.68	3.04	4.76
SA =	0.89	1.07	0.52	0.17	1.18	0.18
W =	0.53	0.18	1.57	0.50	1.35	3.11
I =	0.89	0.89	0.52	1.17	0.67	0.37
B =	0.18	0.00	0.52	0.84	0.51	1.28
BA =	0.36	0.71	0.70	0.00	0.00	0.18



SYCAN CREEK 2016 PERCENTAGES						
GA =	78.24	76.99	84.00	77.03	78.15	69.12
G =	1.47	1.14	1.14	2.03	0.56	1.76
T =	8.24	7.67	2.86	4.94	5.60	6.47
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.41	3.13	2.57	2.91	5.60	9.12
SA =	3.24	5.97	1.71	4.94	3.92	6.47
W =	1.47	2.27	1.71	1.16	3.36	5.00
I =	0.59	0.00	0.00	1.45	0.56	0.00
B =	0.00	1.42	4.29	4.94	1.96	1.76
BA =	2.35	1.42	1.71	0.58	0.28	0.29

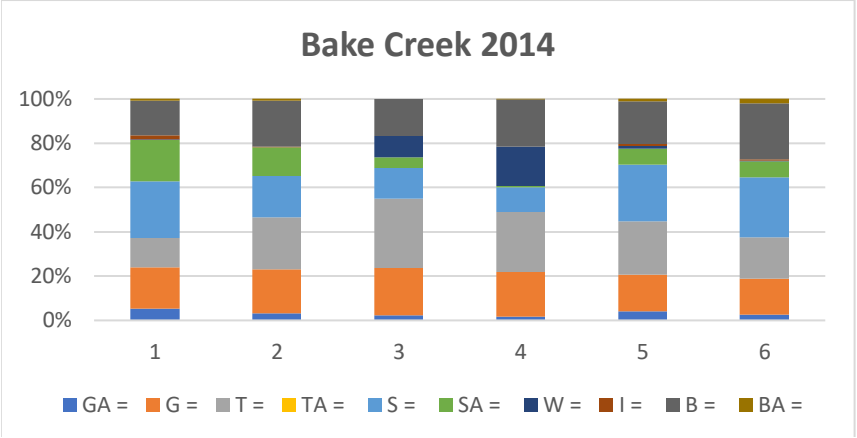


WHISKY CREEK 2016 PERCENTAGES						
GA =	92.28	89.24	74.86	67.01	83.48	84.85
G =	0.89	1.45	2.21	5.15	4.35	4.24
T =	0.00	0.00	0.00	0.00	0.58	1.21
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.29	0.00	0.26	0.00	0.61
SA =	0.00	0.00	0.28	0.00	0.00	0.00
W =	6.23	9.01	19.06	25.77	11.01	6.67
I =	0.59	0.00	0.83	0.26	0.29	1.52
B =	0.00	0.00	0.00	0.77	0.00	0.00
BA =	0.00	0.00	2.76	0.77	0.29	0.91

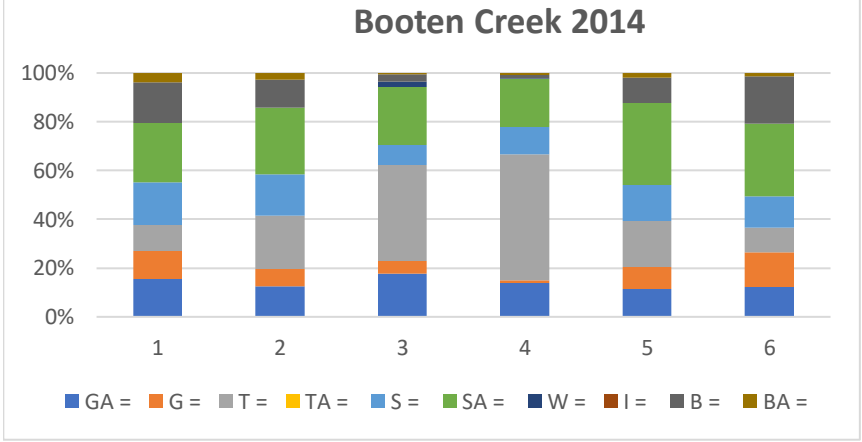


LOWER DESCHUTES:

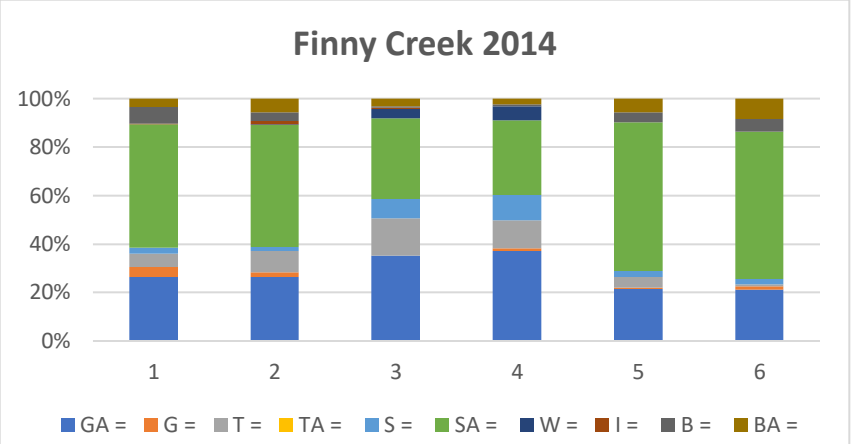
BAKE CREEK 2014 PERCENTAGES						
GA =	5.37	3.13	2.42	1.53	3.95	2.65
G =	18.57	20.00	21.15	20.35	16.74	16.34
T =	13.20	23.37	31.50	27.13	23.95	18.54
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	25.73	18.55	13.88	11.16	25.81	26.93
SA =	18.57	13.01	4.63	0.66	7.21	7.51
W =	0.22	0.00	9.69	17.51	1.16	0.22
I =	2.01	0.48	0.00	0.00	0.70	0.44
B =	15.44	20.72	16.74	21.44	19.30	25.39
BA =	0.89	0.72	0.00	0.22	1.16	1.99



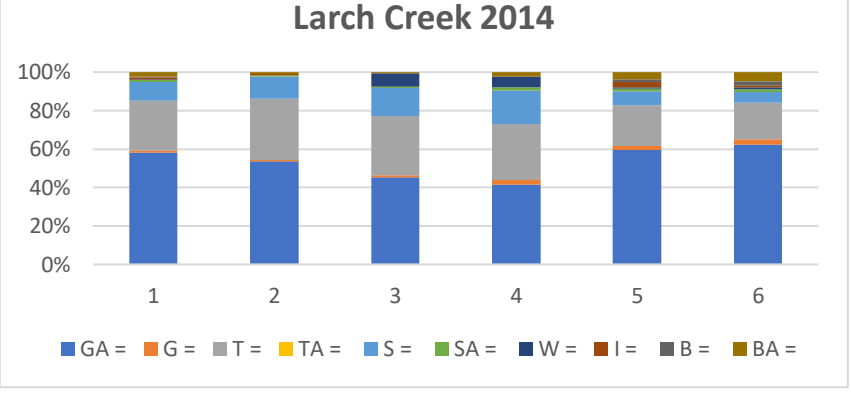
BOOTEN CREEK 2014 PERCENTAGES						
GA =	15.58	12.62	17.70	13.98	11.54	12.38
G =	11.53	7.08	5.31	0.93	8.88	13.97
T =	10.59	21.85	39.23	51.86	18.93	10.16
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	17.45	16.92	8.26	11.18	14.79	13.02
SA =	24.30	27.38	23.89	19.57	33.43	29.84
W =	0.00	0.00	2.06	0.31	0.00	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	16.82	11.38	2.95	1.24	10.65	19.37
BA =	3.74	2.77	0.59	0.93	1.78	1.27



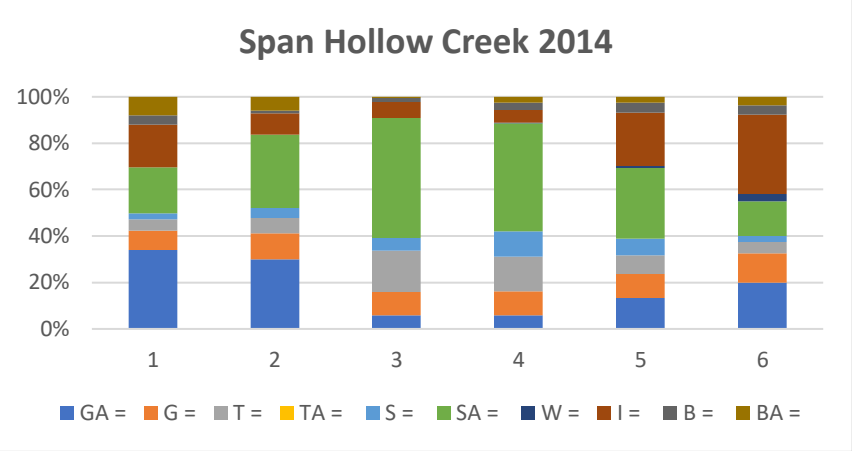
FINNY CREEK 2014 PERCENTAGES						
GA =	26.54	26.46	35.17	37.10	21.54	21.19
G =	3.93	1.85	0.00	1.23	0.53	1.29
T =	5.65	8.73	15.49	11.55	4.26	1.03
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.46	1.85	7.87	10.32	2.66	2.07
SA =	50.86	50.26	33.33	30.71	61.17	60.72
W =	0.00	0.26	3.94	5.90	0.00	0.00
I =	0.25	1.32	0.52	0.00	0.00	0.00
B =	6.88	3.70	0.52	0.74	4.26	5.43
BA =	3.44	5.56	3.15	2.46	5.59	8.27



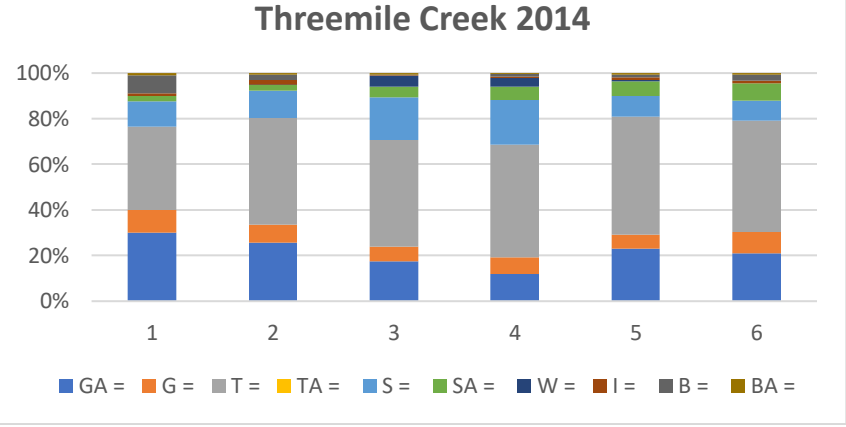
LARCH CREEK 20014 PERCENTAGES						
GA =	58.02	53.51	45.40	41.50	59.67	62.15
G =	1.23	0.88	0.95	2.31	1.97	2.77
T =	25.93	31.87	30.79	29.11	20.98	19.08
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	9.57	11.40	14.60	17.58	7.54	5.54
SA =	1.23	0.58	0.63	1.73	1.31	1.54
W =	0.31	0.00	6.98	5.48	0.66	0.92
I =	0.93	0.88	0.00	0.00	2.62	1.23
B =	0.31	0.00	0.00	0.00	1.64	1.85
BA =	2.47	0.88	0.63	2.31	3.61	4.92



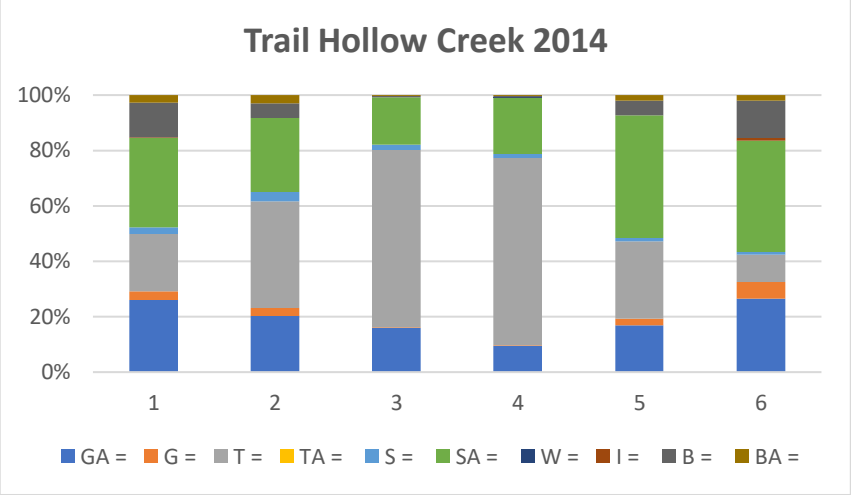
SPAN HOLLOW CREEK 2014 PERCENTAGES						
GA =	33.98	30.09	5.96	5.94	13.40	20.06
G =	8.41	10.97	10.03	10.31	10.13	12.46
T =	4.85	6.58	17.87	15.00	8.17	4.86
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.59	4.39	5.33	10.94	7.19	2.74
SA =	19.74	31.66	51.72	46.25	30.39	14.89
W =	0.00	0.00	0.00	0.31	0.98	3.04
I =	18.45	9.09	6.90	5.63	22.88	34.35
B =	3.88	1.25	1.57	3.13	4.25	3.95
BA =	8.09	5.96	0.63	2.50	2.61	3.65



THREEMILE CREEK 2014 PERCENTAGES						
GA =	29.94	25.71	17.44	11.91	22.99	21.13
G =	10.18	7.81	6.49	7.39	6.32	9.26
T =	36.46	46.86	46.75	49.28	51.72	48.89
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	11.00	11.81	18.74	19.71	9.00	8.65
SA =	2.24	2.67	4.64	5.75	6.32	7.65
W =	0.00	0.19	4.64	3.90	0.57	0.00
I =	1.22	1.90	0.19	0.62	1.34	1.01
B =	7.94	2.48	0.56	1.03	0.96	2.62
BA =	1.02	0.57	0.56	0.41	0.77	0.80

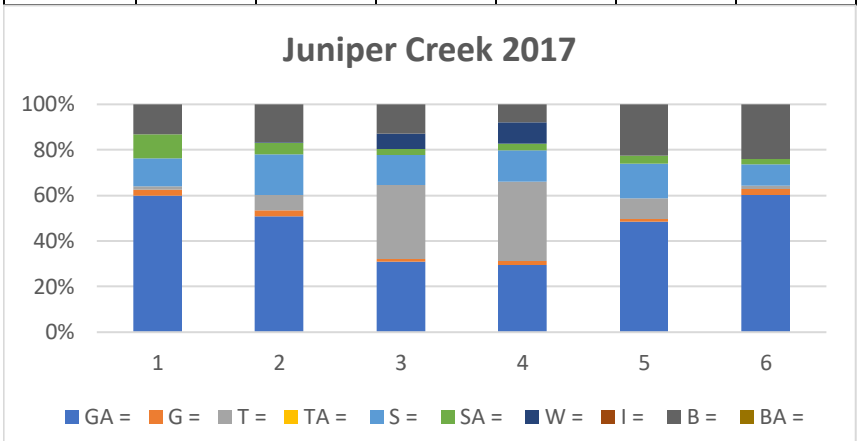


TRAIL HOLLOW CREEK 2014 PERCENTAGES						
GA =	26.09	20.22	15.93	9.44	17.00	26.49
G =	3.07	2.96	0.25	0.26	2.25	5.97
T =	20.72	38.54	63.97	67.60	28.00	9.87
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.30	3.23	1.96	1.53	1.25	1.04
SA =	32.23	26.68	17.16	20.15	44.25	40.26
W =	0.00	0.00	0.00	0.26	0.00	0.00
I =	0.26	0.00	0.00	0.00	0.00	0.78
B =	12.53	5.39	0.49	0.51	5.25	13.51
BA =	2.81	2.96	0.25	0.26	2.00	2.08

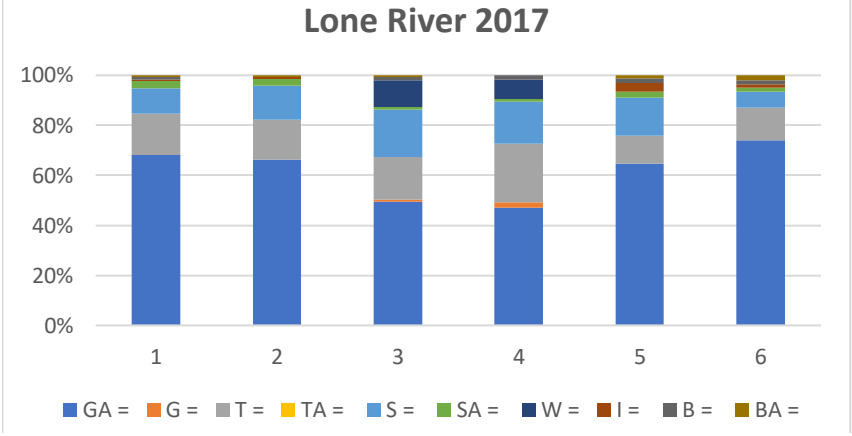


LOWER JOHN DAY:

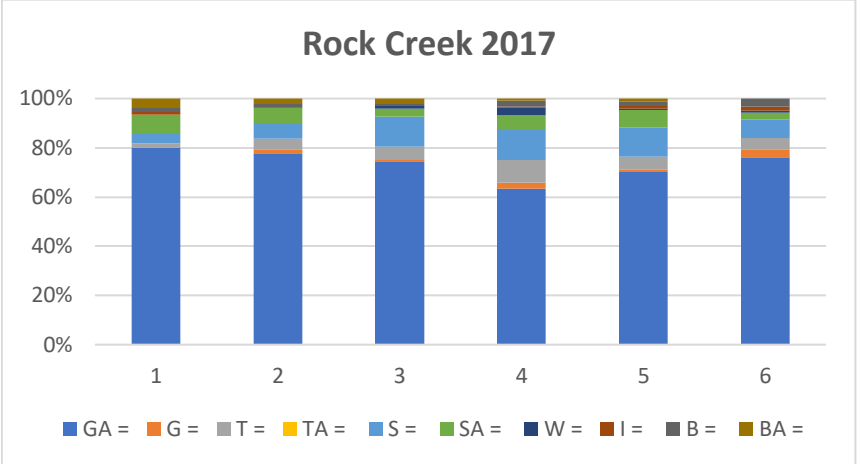
JUNIPER CREEK 2017 PERCENTAGES						
GA =	60.00	50.76	31.00	29.57	48.40	60.07
G =	2.55	2.65	1.11	1.56	1.20	2.88
T =	1.45	6.82	32.47	35.02	9.20	1.44
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	12.36	17.80	13.28	13.62	15.20	9.35
SA =	10.55	4.92	2.58	3.11	3.60	2.16
W =	0.00	0.38	6.64	9.34	0.00	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	13.09	16.67	12.92	7.78	22.40	24.10
BA =	0.00	0.00	0.00	0.00	0.00	0.00



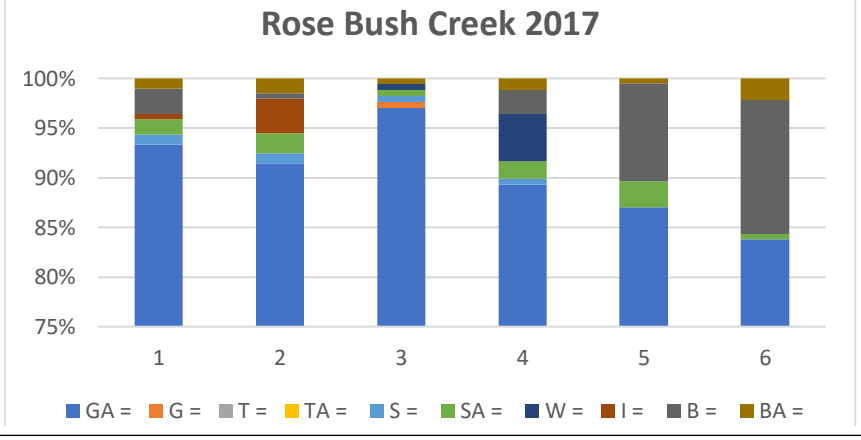
LONE RIVER 2017 PERCENTAGES						
GA =	68.04	66.32	49.50	47.18	64.57	74.04
G =	0.00	0.00	0.67	2.11	0.00	0.00
T =	16.49	15.97	17.06	23.24	11.26	12.98
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	10.31	13.54	19.06	16.90	15.23	6.32
SA =	2.75	2.78	1.00	1.06	2.32	1.75
W =	0.00	0.00	10.70	7.75	0.00	0.00
I =	0.69	0.69	0.00	0.00	3.64	1.40
B =	1.03	0.00	1.34	1.76	1.66	1.40
BA =	0.69	0.69	0.67	0.00	1.32	2.11



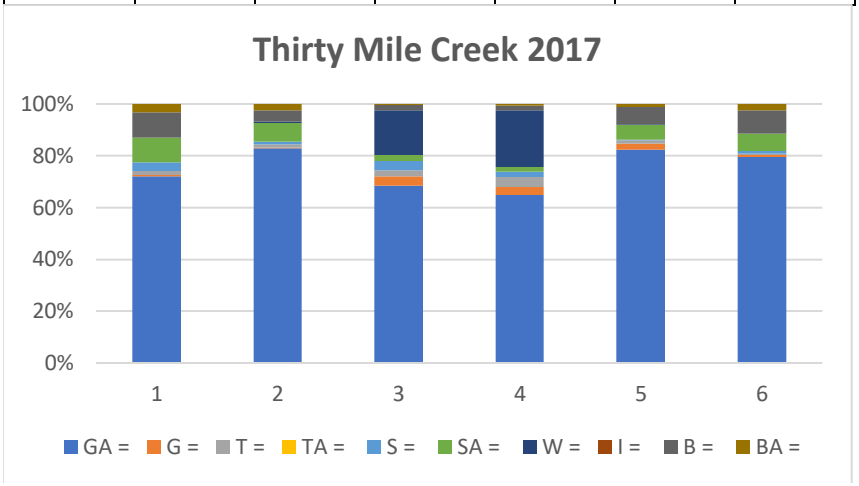
ROCK CREEK 2017 PERCENTAGES						
GA =	79.81	77.66	74.41	63.40	70.05	76.13
G =	0.24	1.63	0.53	2.39	1.07	3.18
T =	1.70	4.36	5.54	9.28	5.35	4.77
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.89	5.99	12.14	12.20	11.76	7.43
SA =	7.79	6.54	3.17	5.84	7.22	2.65
W =	0.00	0.27	1.32	3.45	0.53	0.80
I =	0.97	0.00	0.00	0.27	1.07	1.86
B =	1.70	1.36	0.79	2.39	1.87	3.18
BA =	3.89	2.18	2.11	0.80	1.07	0.00



ROSE BUSH CREEK 2017 PERCENTAGES						
GA =	93.33	91.46	97.06	89.29	87.05	83.78
G =	0.00	0.00	0.59	0.00	0.00	0.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.03	1.01	0.59	0.60	0.00	0.00
SA =	1.54	2.01	0.59	1.79	2.59	0.54
W =	0.00	0.00	0.59	4.76	0.00	0.00
I =	0.51	3.52	0.00	0.00	0.00	0.00
B =	2.56	0.50	0.00	2.38	9.84	13.51
BA =	1.03	1.51	0.59	1.19	0.52	2.16

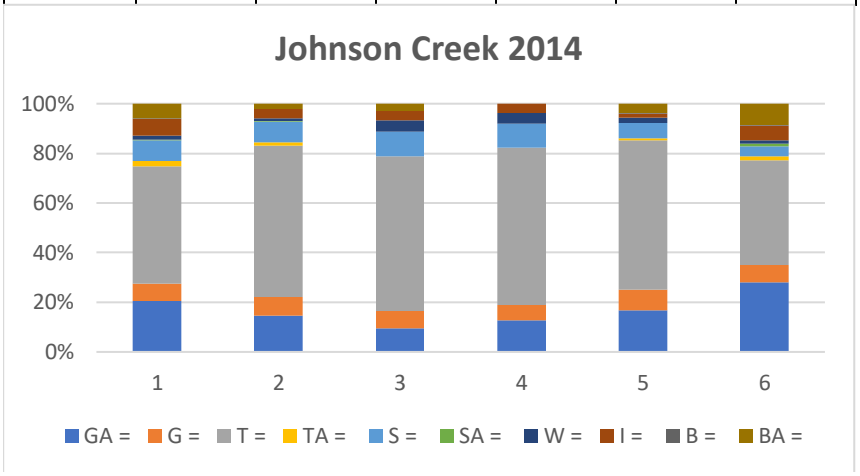


THIRTY MILE CREEK 2017 PERCENTAGES						
GA =	71.94	82.87	68.45	64.91	82.28	79.52
G =	0.65	0.31	3.57	3.11	2.40	0.90
T =	1.61	1.22	2.38	3.73	1.20	0.30
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.23	0.92	3.57	2.17	0.30	1.20
SA =	9.68	7.34	2.38	1.86	5.71	6.63
W =	0.00	0.61	17.26	21.74	0.30	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	9.68	4.28	2.08	1.86	6.61	9.04
BA =	3.23	2.45	0.30	0.62	1.20	2.41

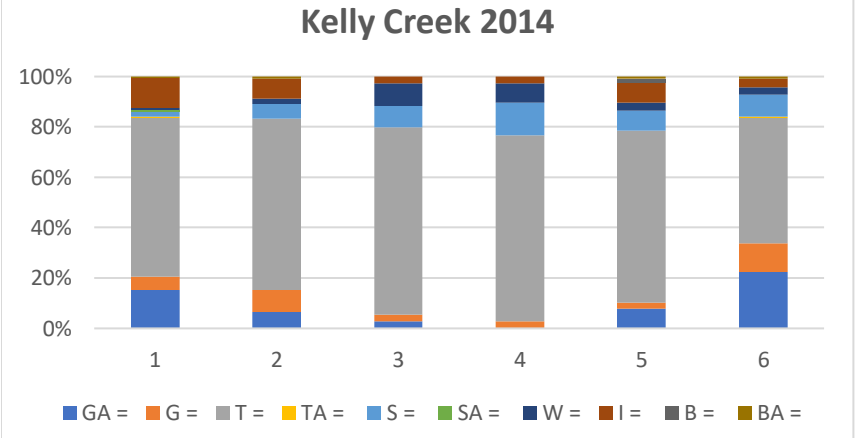


LOWER WILLAMETTE:

JOHNSON CREEK 2014 PERCENTAGES						
GA =	20.41	14.72	9.62	12.72	16.67	28.12
G =	7.00	7.36	7.00	6.07	8.48	6.96
T =	47.23	61.04	62.10	63.58	60.00	42.03
TA =	2.33	1.23	0.00	0.00	0.91	1.74
S =	8.16	8.28	9.91	9.54	6.06	4.06
SA =	0.29	0.31	0.00	0.00	0.00	0.87
W =	1.75	1.23	4.66	4.34	2.12	1.45
I =	6.71	3.68	3.79	3.76	1.82	5.80
B =	0.29	0.00	0.00	0.00	0.30	0.29
BA =	5.83	2.15	2.92	0.00	3.64	8.70

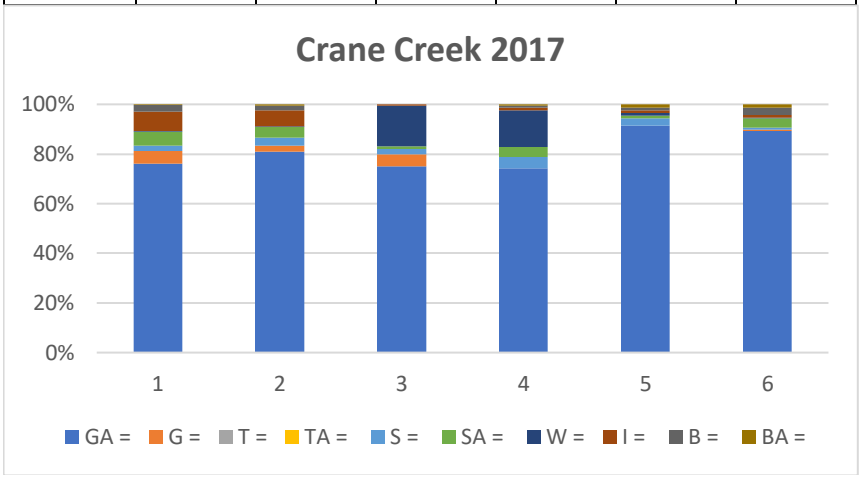


KELLY CREEK 2014 PERCENTAGES						
GA =	15.23	6.52	2.78	0.00	7.94	22.30
G =	5.30	8.70	2.78	2.76	2.38	11.51
T =	62.91	68.12	74.31	73.79	68.25	49.64
TA =	0.66	0.00	0.00	0.00	0.00	0.72
S =	1.99	5.80	8.33	13.10	7.94	8.63
SA =	0.66	0.00	0.00	0.00	0.00	0.00
W =	0.66	2.17	9.03	7.59	3.17	2.88
I =	11.92	7.97	2.78	2.76	7.94	3.60
B =	0.00	0.00	0.00	0.00	1.59	0.00
BA =	0.66	0.72	0.00	0.00	0.79	0.72

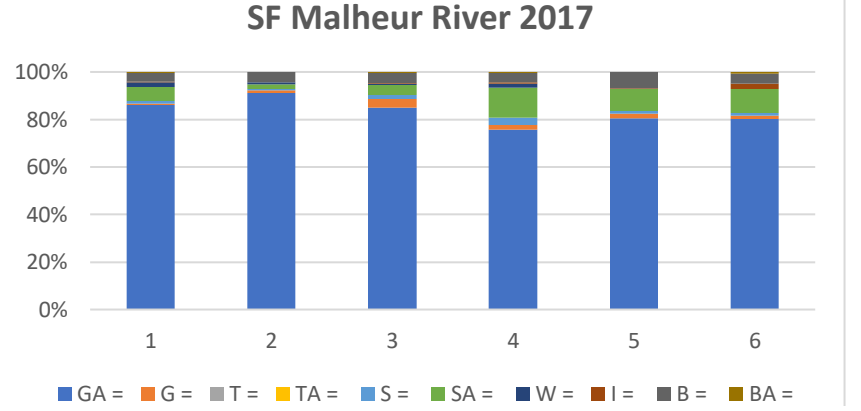


MALHEUR:

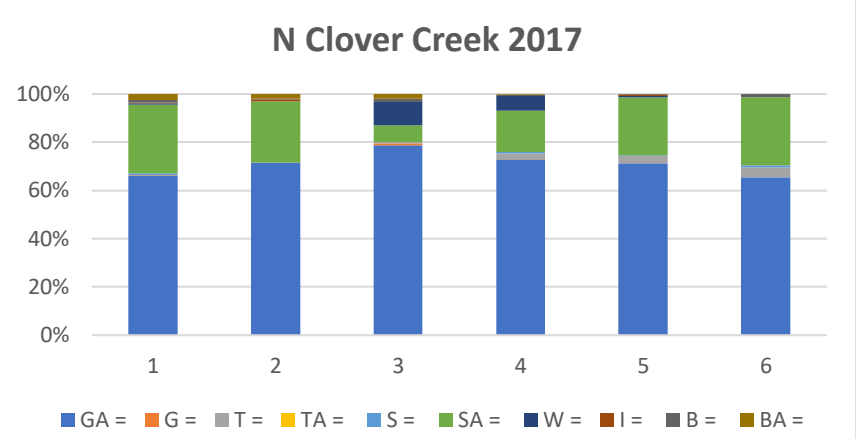
CRANE CREEK 2017 PERCENTAGES						
GA =	76.23	80.82	74.93	74.28	91.33	89.24
G =	4.92	2.47	4.96	0.00	0.00	0.57
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.19	3.29	2.20	4.62	2.98	0.85
SA =	5.74	4.38	1.10	4.05	1.08	3.68
W =	0.27	0.27	16.25	14.74	1.08	0.28
I =	7.65	6.30	0.55	0.87	1.08	1.13
B =	2.73	1.92	0.00	0.87	1.08	2.83
BA =	0.27	0.55	0.00	0.58	1.36	1.42



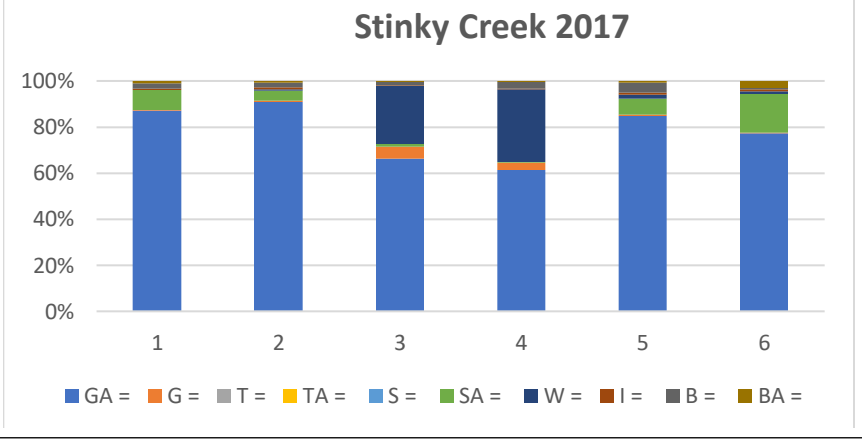
SF MALHEUR RIVER 2017 PERCENTAGES						
GA =	86.15	91.11	84.97	75.64	80.56	80.25
G =	0.62	1.27	3.68	1.92	1.88	1.23
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.92	0.32	1.53	3.21	1.25	1.23
SA =	5.85	2.22	4.29	12.50	9.09	10.19
W =	2.15	0.63	0.61	1.92	0.00	0.00
I =	0.31	0.00	0.31	0.32	0.31	2.16
B =	3.69	4.44	4.29	4.17	6.90	4.32
BA =	0.31	0.00	0.31	0.32	0.00	0.62



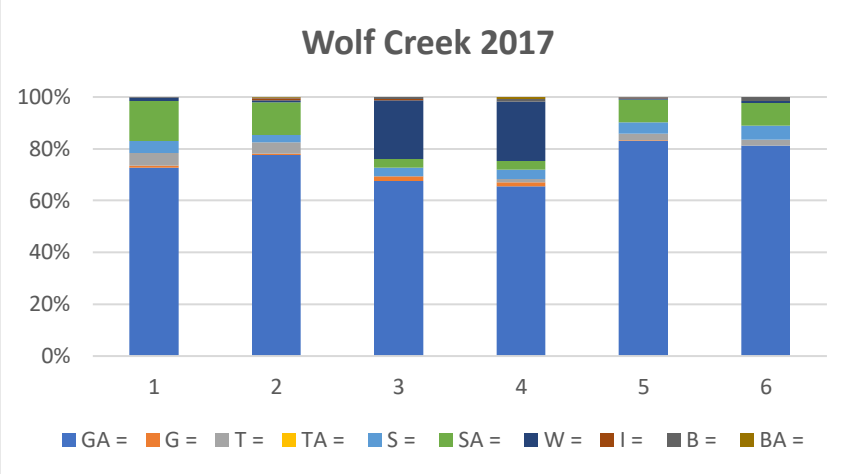
N CLOVER CREEK 2017 PERCENTAGES						
GA =	65.88	71.60	78.64	72.69	71.33	65.54
G =	0.39	0.00	1.02	0.00	0.00	0.00
T =	0.00	0.00	0.34	2.58	2.87	4.12
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.78	0.00	0.00	0.74	0.36	0.75
SA =	28.63	25.29	7.12	16.97	24.01	28.09
W =	0.39	0.00	9.49	6.27	0.72	0.00
I =	0.39	0.78	0.00	0.00	0.36	0.00
B =	1.18	0.39	1.36	0.37	0.36	1.50
BA =	2.35	1.95	2.03	0.37	0.00	0.00



STINKY CREEK 2017 PERCENTAGES						
GA =	87.18	90.75	66.13	61.49	84.88	77.18
G =	0.32	0.60	5.48	3.11	0.62	0.34
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	0.00	0.00
SA =	8.65	4.48	0.97	0.31	6.79	16.78
W =	0.00	0.60	25.16	31.37	1.85	1.34
I =	0.64	0.90	0.32	0.31	0.93	0.67
B =	2.24	2.09	1.61	3.11	4.32	0.67
BA =	0.96	0.60	0.32	0.31	0.62	3.02

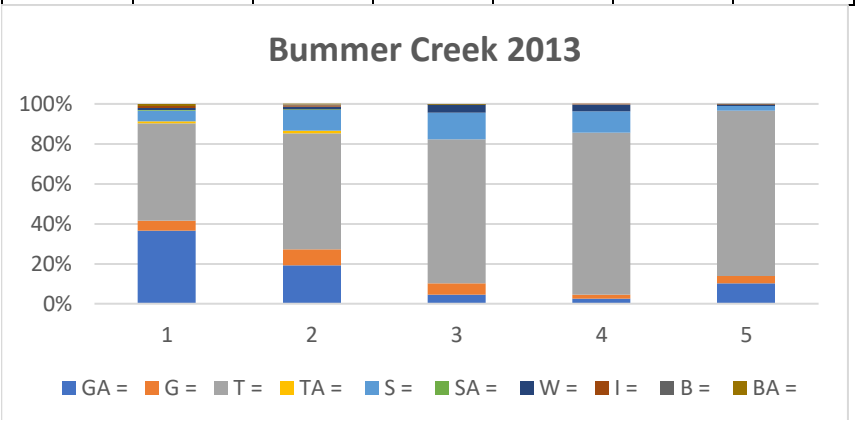


WOLF CREEK 2017 PERCENTAGES						
GA =	72.84	77.55	67.48	65.55	83.09	81.27
G =	0.60	0.58	1.90	1.40	0.29	0.00
T =	5.07	4.37	0.00	1.40	2.58	2.22
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.48	2.92	3.25	3.64	4.30	5.40
SA =	15.52	12.54	3.52	3.36	8.60	8.89
W =	1.19	0.87	22.49	22.97	0.57	0.63
I =	0.00	0.58	0.54	0.00	0.29	0.00
B =	0.30	0.29	0.81	0.84	0.29	1.59
BA =	0.00	0.29	0.00	0.84	0.00	0.00

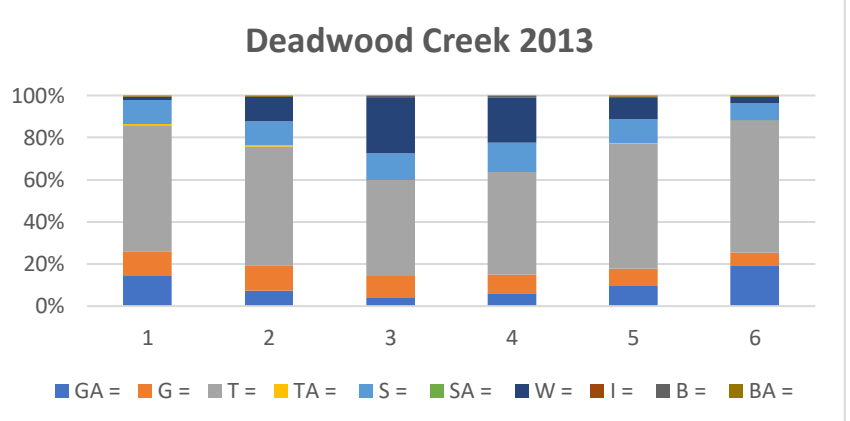


MID COAST:

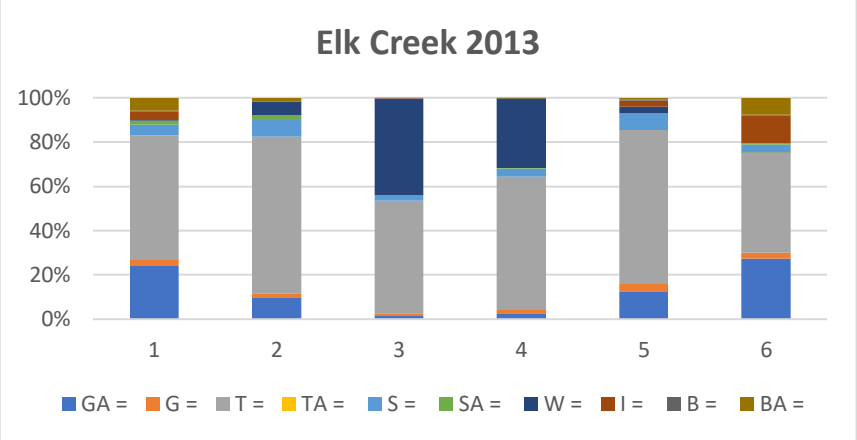
BUMMER CREEK 2013 PERCENTAGES						
GA =	35.99	19.03	4.41	2.43	10.12	35.99
G =	4.72	7.77	5.59	2.16	3.57	4.72
T =	48.08	57.37	70.59	80.27	82.74	48.08
TA =	0.88	1.34	0.00	0.00	0.00	0.88
S =	5.33	10.20	13.07	10.74	2.31	5.33
SA =	0.26	0.25	0.00	0.00	0.00	0.26
W =	0.94	1.31	3.80	3.30	0.46	0.94
I =	1.17	0.65	0.00	0.22	0.23	1.17
B =	0.00	0.43	0.23	0.00	0.23	0.00
BA =	0.92	0.21	0.23	0.00	0.00	0.92



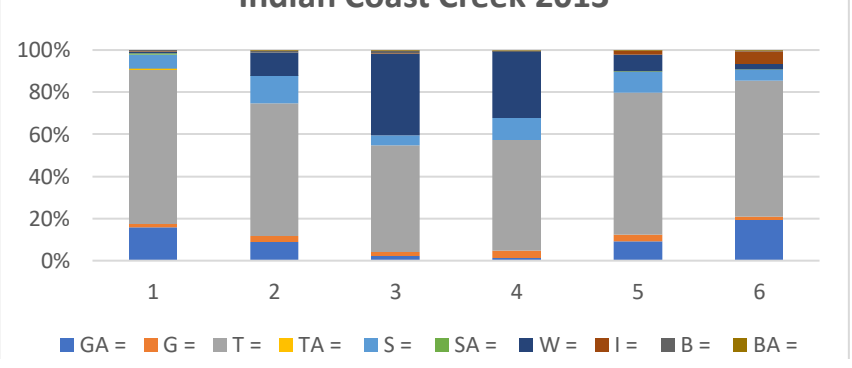
DEADWOOD CREEK 2013 PERCENTAGES						
GA =	14.25	7.29	3.93	6.08	9.48	19.46
G =	11.76	12.07	10.16	8.78	8.35	5.82
T =	59.28	56.26	45.50	48.65	58.92	62.64
TA =	0.90	0.46	0.00	0.00	0.23	0.22
S =	11.31	11.62	12.70	13.96	11.51	8.28
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	1.81	11.39	26.10	21.40	10.16	3.13
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.23	1.15	0.90	0.68	0.00
BA =	0.45	0.46	0.00	0.00	0.45	0.45



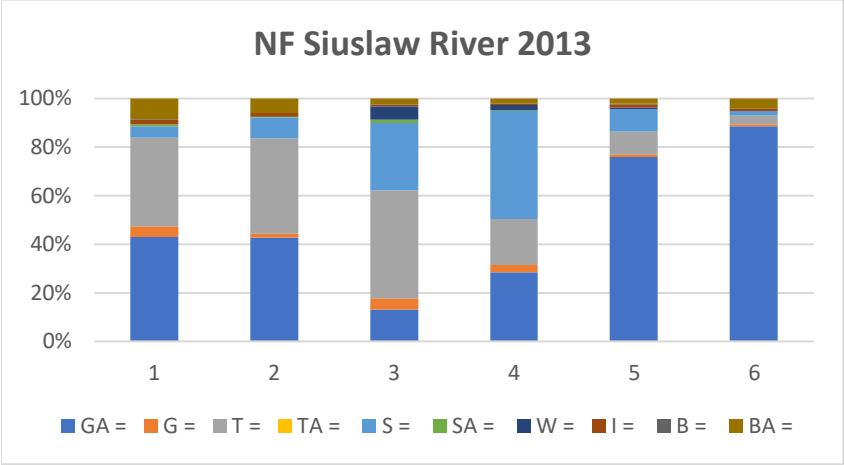
ELK CREEK 2013 PERCENTAGES						
GA =	23.57	9.64	1.75	2.45	12.41	26.82
G =	2.65	1.96	0.73	1.73	3.29	2.43
T =	55.09	69.58	49.05	58.21	68.61	44.08
TA =	0.00	0.00	0.00	0.00	0.00	0.14
S =	4.86	7.27	2.47	3.59	7.34	3.30
SA =	1.61	2.07	0.00	0.29	0.29	0.68
W =	0.38	5.90	42.11	30.28	2.79	0.00
I =	3.88	0.27	0.27	0.00	2.92	12.40
B =	0.12	0.00	0.00	0.26	0.39	0.39
BA =	5.84	1.72	0.00	0.26	0.79	7.32



INDIAN COAST CREEK 2013 PERCENTAGES						
GA =	15.72	8.55	1.98	1.17	9.09	18.72
G =	1.72	3.00	1.98	3.26	2.95	1.60
T =	72.48	60.97	48.13	50.35	65.91	63.01
TA =	0.49	0.00	0.00	0.00	0.00	0.00
S =	6.62	12.68	4.38	10.00	9.57	5.04
SA =	0.71	0.22	0.00	0.00	0.22	0.22
W =	0.80	10.68	36.88	29.77	7.92	2.49
I =	0.20	0.00	0.20	0.21	1.74	5.75
B =	0.60	0.77	1.17	0.61	0.00	0.19
BA =	0.00	0.39	0.39	0.20	0.38	0.38

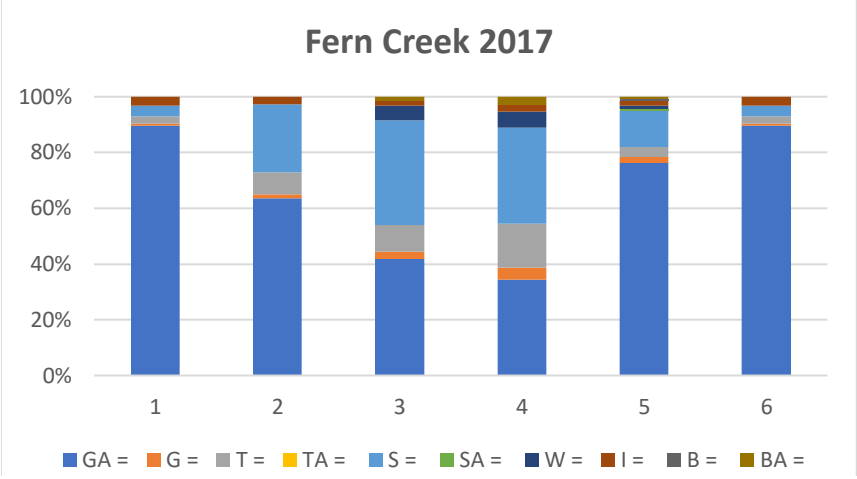


NF SIUSLAW RIVER 2013 PERCENTAGES						
GA =	38.94	40.14	12.01	25.29	66.67	78.01
G =	4.05	1.70	4.20	2.65	0.98	0.59
T =	33.02	36.73	40.54	16.76	8.17	3.23
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.45	8.08	25.22	39.69	8.05	1.67
SA =	0.55	0.30	1.15	0.27	0.00	0.00
W =	0.00	0.27	5.13	1.82	0.52	0.00
I =	1.76	1.34	0.51	0.52	1.31	0.95
B =	0.25	0.00	0.24	0.00	0.26	0.00
BA =	7.71	5.51	2.16	1.88	1.80	3.53

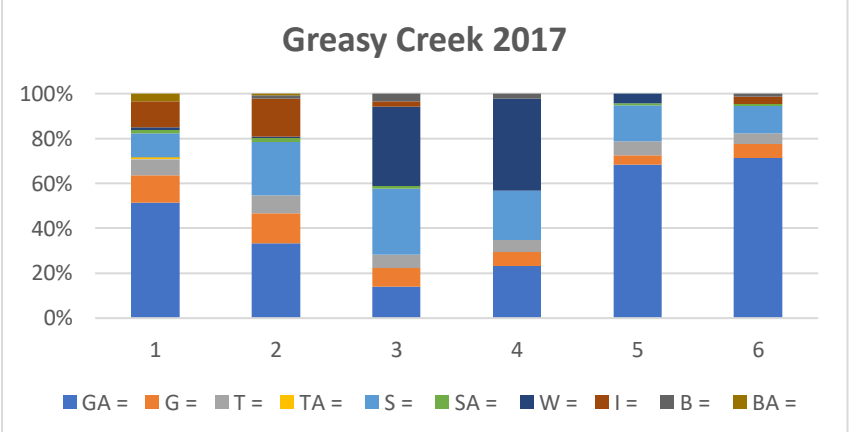


MIDDLE WILLAMETTE:

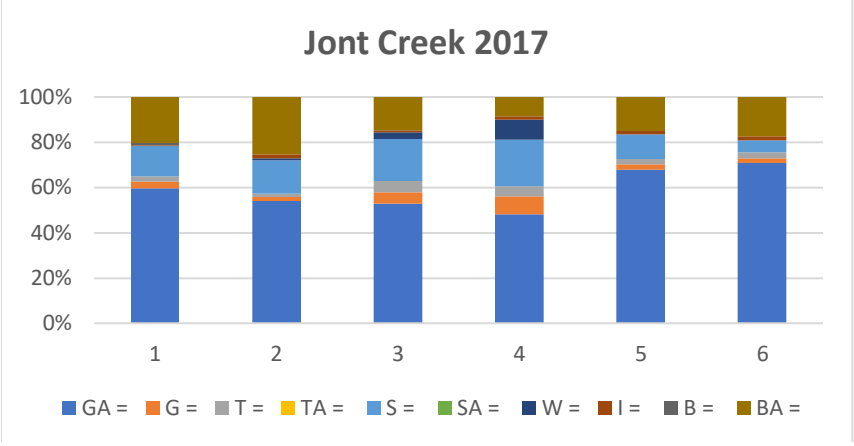
FERN CREEK 2017 PERCENTAGES						
GA =	89.72	63.56	41.80	34.50	76.23	89.72
G =	0.71	1.33	2.65	4.09	2.05	0.71
T =	2.48	8.00	9.52	15.79	3.69	2.48
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.90	24.44	37.57	34.50	13.11	3.90
SA =	0.00	0.00	0.00	0.00	0.41	0.00
W =	0.00	0.00	5.29	5.85	1.23	0.00
I =	3.19	2.67	1.59	2.34	2.05	3.19
B =	0.00	0.00	0.00	0.00	0.41	0.00
BA =	0.00	0.00	1.59	2.92	0.82	0.00



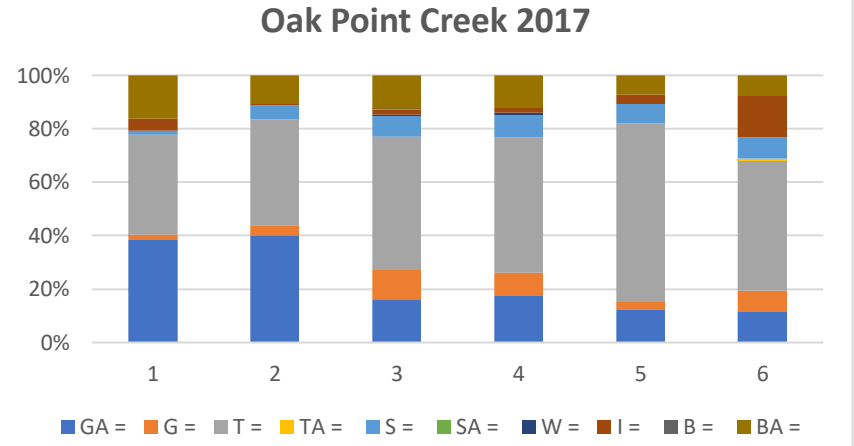
GREASY CREEK 2017 PERCENTAGES						
GA =	51.52	33.33	14.12	23.16	68.38	71.43
G =	12.12	13.49	8.24	6.32	4.27	6.12
T =	7.07	7.94	5.88	5.26	5.98	4.76
TA =	1.01	0.00	0.00	0.00	0.00	0.00
S =	10.61	23.81	29.41	22.11	16.24	12.24
SA =	1.52	1.59	1.18	0.00	0.85	0.68
W =	1.01	0.79	35.29	41.05	4.27	0.00
I =	11.62	16.67	2.35	0.00	0.00	3.40
B =	0.00	1.59	3.53	2.11	0.00	1.36
BA =	3.54	0.79	0.00	0.00	0.00	0.00



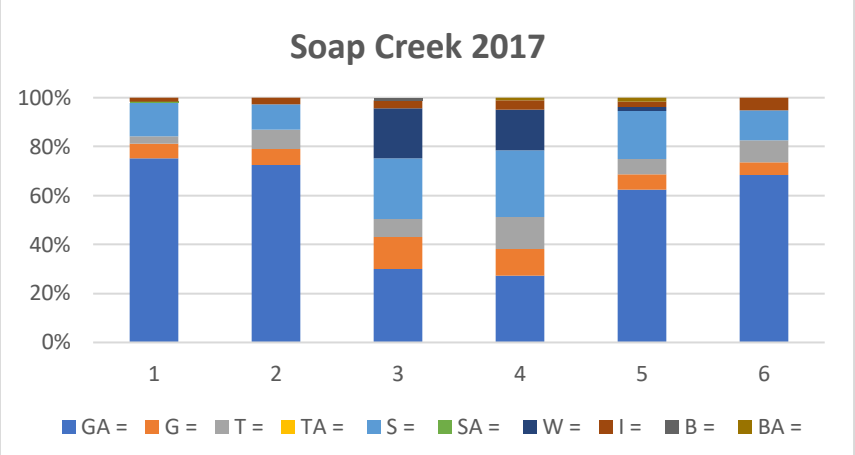
JONT CREEK 2017 PERCENTAGES						
GA =	59.65	54.10	52.94	48.20	67.88	70.98
G =	2.92	1.64	4.90	7.91	2.42	1.79
T =	2.34	1.64	4.90	4.32	2.42	2.68
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	13.45	14.75	18.63	20.86	10.91	5.36
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.82	2.94	8.63	0.00	0.00
I =	0.58	1.64	0.98	1.44	1.21	1.79
B =	0.58	0.00	0.00	0.00	0.00	0.00
BA =	20.47	25.41	14.71	8.63	15.15	17.41



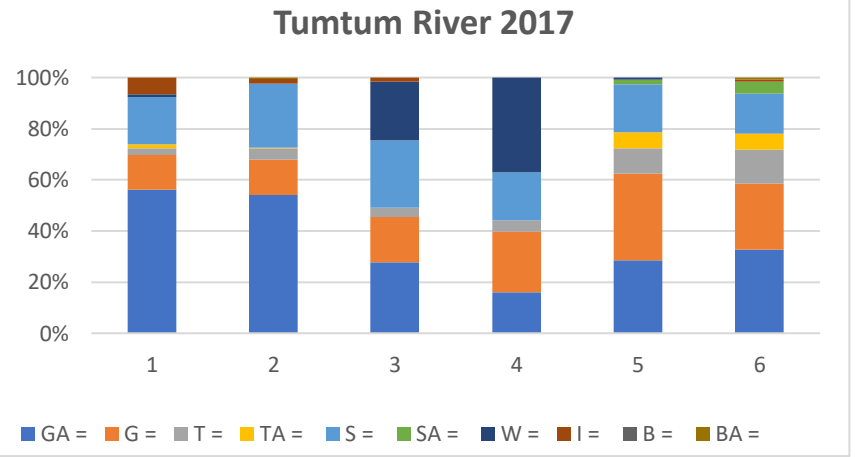
OAK POINT CREEK 2017 PERCENTAGES						
GA =	38.31	40.11	15.89	17.67	12.50	11.65
G =	1.95	3.74	11.24	8.37	2.68	7.77
T =	37.66	39.57	50.00	50.70	66.96	48.54
TA =	0.00	0.00	0.00	0.00	0.00	0.97
S =	1.30	5.35	7.75	8.37	7.14	7.77
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	0.39	0.93	0.00	0.00
I =	4.55	0.53	1.94	1.86	3.57	15.53
B =	0.00	0.00	0.39	0.00	0.00	0.00
BA =	16.23	10.70	12.40	12.09	7.14	7.77



SOAP CREEK 2017 PERCENTAGES						
GA =	75.19	72.37	30.11	27.38	62.50	68.39
G =	6.02	6.58	12.90	10.71	6.25	5.16
T =	3.01	7.89	7.53	13.10	6.25	9.03
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	13.53	10.53	24.73	27.38	19.53	12.26
SA =	0.75	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	20.43	16.67	1.56	0.00
I =	1.50	2.63	3.23	3.57	2.34	5.16
B =	0.00	0.00	1.08	0.00	0.00	0.00
BA =	0.00	0.00	0.00	1.19	1.56	0.00

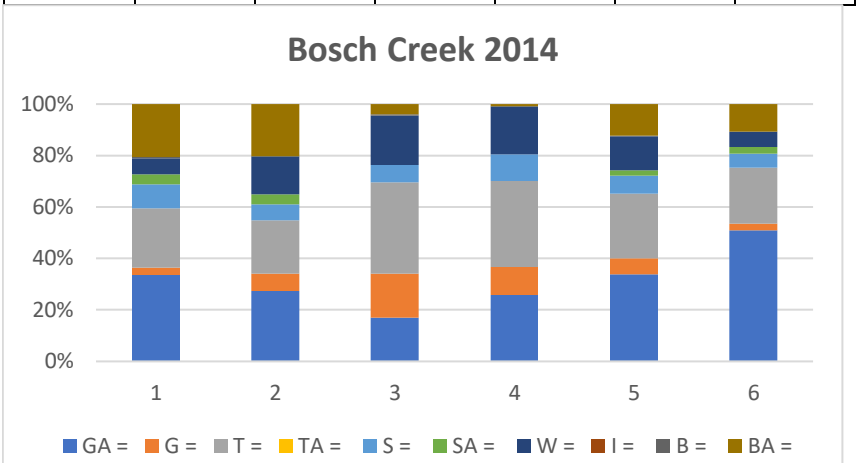


TUMTUM RIVER 2017 PERCENTAGES						
GA =	56.07	54.15	27.69	15.93	28.57	32.81
G =	13.55	13.66	17.69	23.89	33.93	25.78
T =	2.80	4.39	3.85	4.42	9.82	13.28
TA =	1.40	0.49	0.00	0.00	6.25	6.25
S =	18.69	24.88	26.15	18.58	18.75	15.63
SA =	0.00	0.00	0.00	0.00	1.79	4.69
W =	0.93	0.00	23.08	37.17	0.89	0.00
I =	6.54	1.95	1.54	0.00	0.00	0.78
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	0.00	0.49	0.00	0.00	0.00	0.78

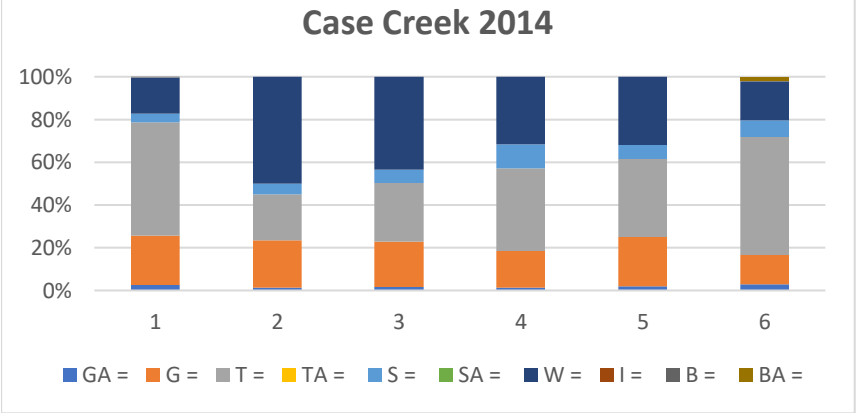


MOLALLA-PUDDING:

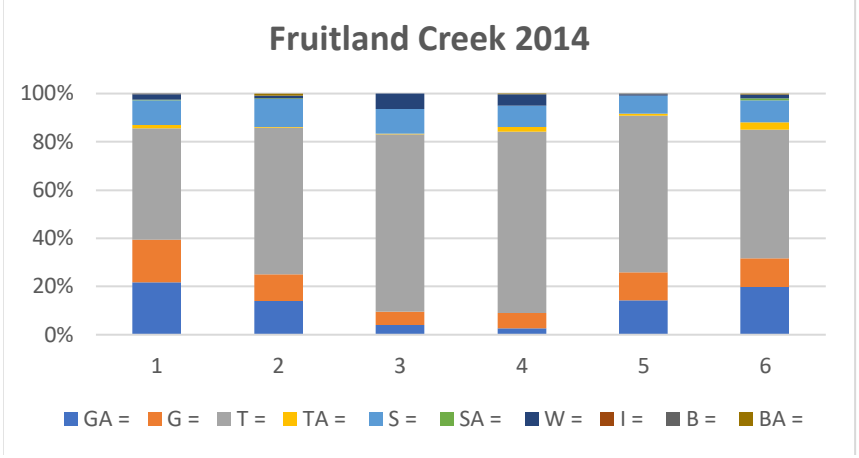
BOSCH CREEK 2014 PERCENTAGES						
GA =	33.49	27.31	17.04	25.71	33.63	50.67
G =	2.87	6.61	17.04	10.95	6.28	2.69
T =	22.97	20.70	35.43	33.33	25.11	21.52
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	9.09	6.17	6.73	10.48	6.73	5.38
SA =	3.83	3.96	0.00	0.00	2.24	2.69
W =	6.22	14.54	19.28	18.57	13.00	5.83
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.48	0.00	0.45	0.00	0.45	0.00
BA =	20.57	20.26	4.04	0.95	12.11	10.76



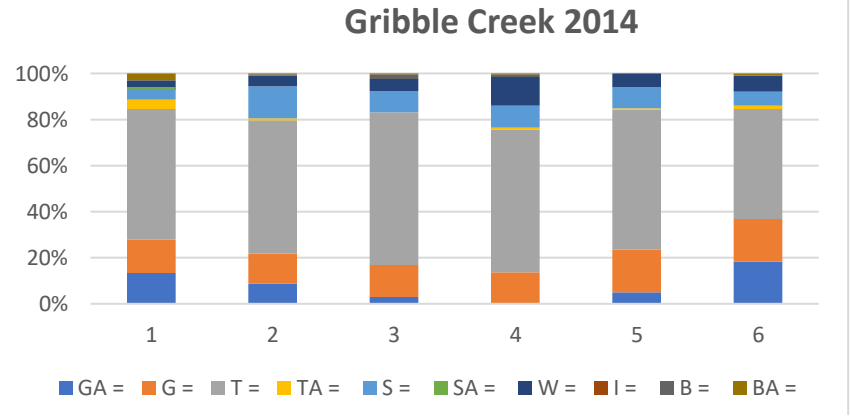
CASE CREEK 2014 PERCENTAGES						
GA =	2.61	1.44	1.64	1.45	1.99	2.72
G =	22.90	21.90	21.04	17.05	23.08	13.90
T =	53.04	21.61	27.60	38.73	36.47	54.98
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.06	4.90	6.01	11.27	6.55	7.85
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	16.81	50.14	43.44	31.50	31.91	17.82
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.29	0.00	0.00	0.00	0.00	0.60
BA =	0.00	0.00	0.00	0.00	0.00	1.81



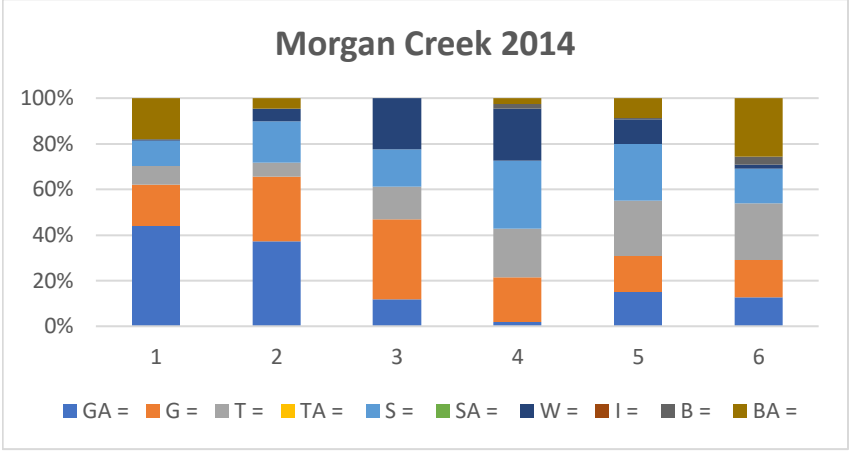
FRUITLAND CREEK 2014 PERCENTAGES						
GA =	21.56	13.97	3.94	2.65	14.16	19.64
G =	17.66	10.96	5.35	6.35	11.45	11.90
T =	45.81	60.55	72.68	74.34	64.46	53.27
TA =	1.50	0.27	0.28	1.85	0.90	2.98
S =	10.18	11.51	10.14	8.73	7.23	9.23
SA =	0.30	0.27	0.00	0.00	0.00	0.60
W =	2.10	1.10	6.20	4.76	0.60	1.49
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.30	0.00	0.00	0.00	0.30	0.30
BA =	0.00	0.82	0.00	0.26	0.00	0.30



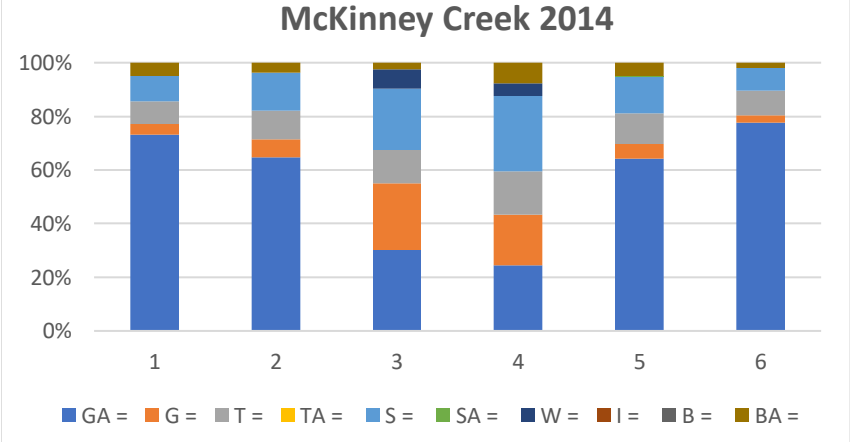
GRIBBLE CREEK 2014 PERCENTAGES						
GA =	13.30	8.84	2.79	0.47	5.05	18.18
G =	14.29	13.02	13.95	13.08	18.35	18.72
T =	56.65	57.67	65.58	61.68	61.01	47.59
TA =	3.94	0.93	0.00	0.93	0.46	1.60
S =	4.43	13.95	9.30	9.35	9.17	5.88
SA =	0.99	0.00	0.00	0.00	0.00	0.00
W =	2.96	4.65	5.12	12.62	5.96	6.95
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.47	1.86	0.93	0.00	0.00
BA =	2.96	0.47	0.47	0.47	0.00	1.07



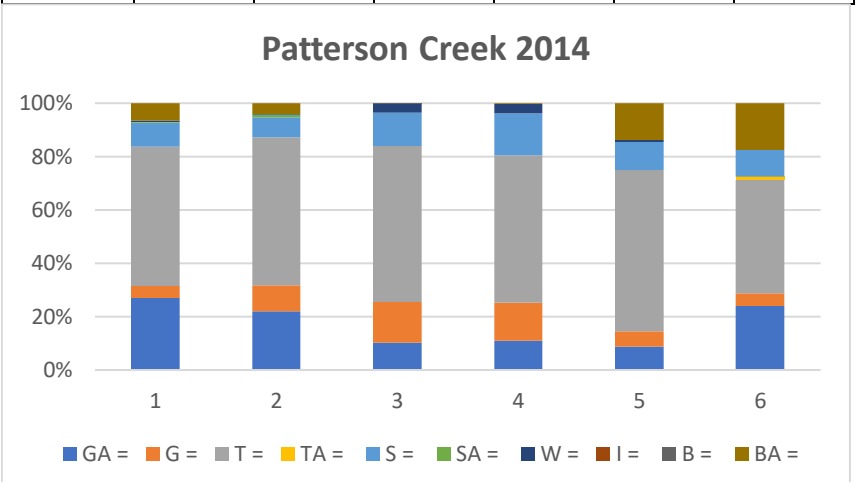
MORGAN CREEK 2014 PERCENTAGES						
GA =	44.03	36.91	11.94	1.95	15.00	12.61
G =	17.91	28.19	35.07	19.48	15.71	15.97
T =	8.21	6.04	14.18	21.43	24.29	24.37
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	11.19	18.12	16.42	29.87	25.00	15.13
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.75	5.37	22.39	22.73	10.71	1.68
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.00	1.95	0.71	3.36
BA =	17.91	4.70	0.00	2.60	8.57	25.21



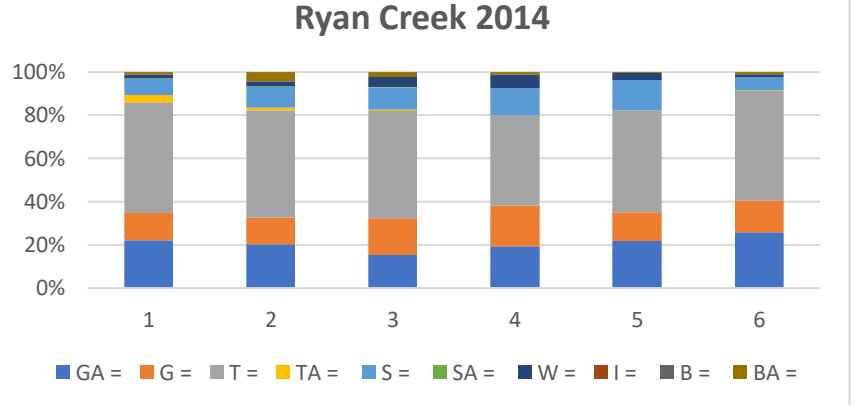
McKINNEY CREEK 2014 PERCENTAGES						
GA =	73.15	64.68	30.20	24.40	64.08	77.73
G =	3.89	6.81	24.71	18.80	5.31	2.73
T =	8.56	10.64	12.55	16.00	11.43	8.98
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	9.34	14.04	22.75	28.00	13.47	8.59
SA =	0.00	0.00	0.00	0.00	0.41	0.00
W =	0.00	0.00	7.45	4.80	0.00	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	5.06	3.83	2.35	7.60	4.90	1.95



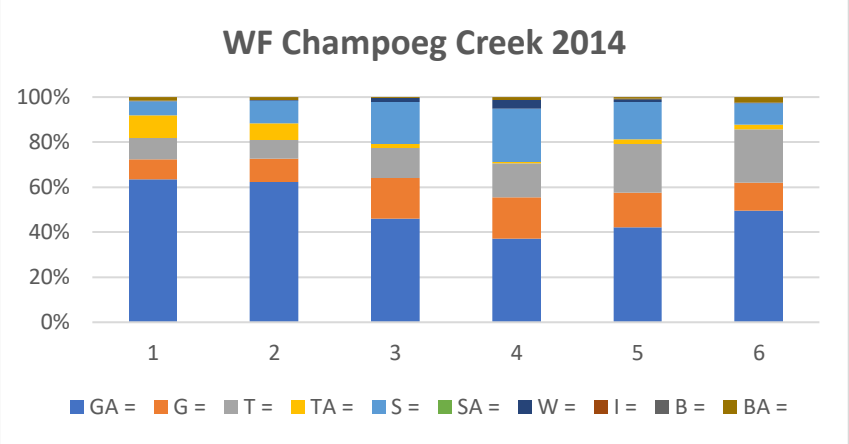
PATTERSON CREEK 2014 PERCENTAGES						
GA =	26.99	22.01	10.27	11.01	8.59	23.91
G =	4.50	9.75	15.21	14.15	5.86	4.71
T =	51.90	55.35	58.17	55.35	60.16	42.39
TA =	0.00	0.00	0.00	0.00	0.00	1.09
S =	9.00	7.55	12.55	15.72	10.55	10.14
SA =	0.35	0.94	0.00	0.00	0.00	0.00
W =	0.35	0.31	3.04	3.46	0.78	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.38	0.00	0.00	0.00
BA =	6.57	4.09	0.00	0.31	13.67	17.39



RYAN CREEK 2014 PERCENTAGES						
GA =	22.06	20.28	15.06	19.34	21.72	25.72
G =	12.46	12.24	16.99	18.69	13.10	14.86
T =	50.89	49.65	49.36	41.97	47.24	50.36
TA =	3.20	1.40	0.64	0.00	0.00	0.36
S =	7.47	9.44	10.26	12.46	13.79	6.16
SA =	0.36	0.35	0.32	0.00	0.00	0.00
W =	1.42	2.10	4.49	6.23	3.45	1.09
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.36	0.35	0.00	0.33	0.00	0.00
BA =	1.07	4.20	2.24	0.98	0.34	1.09

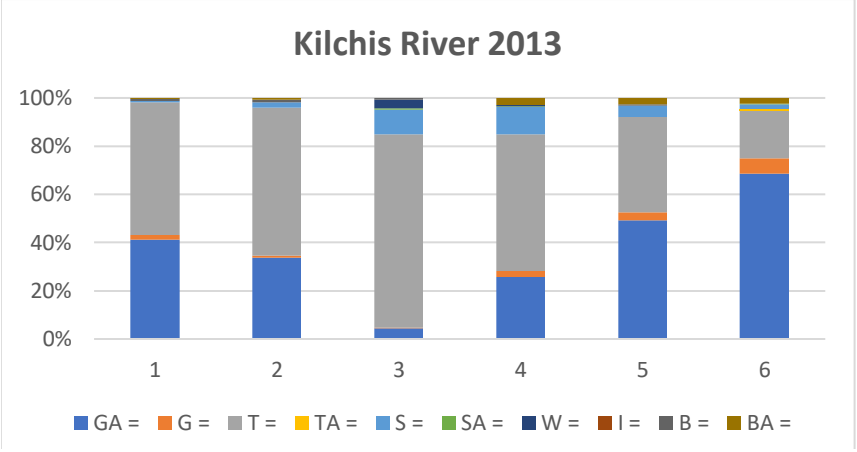


WF CHAMPOEG CREEK 2014 PERCENTAGES						
GA =	63.45	62.15	45.89	37.05	42.08	49.60
G =	8.84	10.36	18.18	18.33	15.42	12.30
T =	9.64	8.37	13.42	15.14	21.67	23.81
TA =	10.04	7.57	1.73	0.80	2.08	1.98
S =	6.02	9.96	18.61	23.51	16.67	9.52
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.40	1.73	3.98	0.83	0.40
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.40	0.00	0.00	0.00	0.42	0.00
BA =	1.61	1.20	0.43	1.20	0.83	2.38

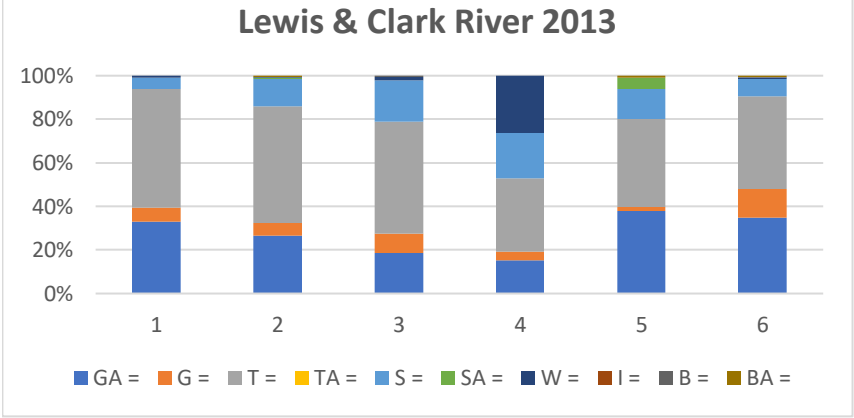


NORTH COAST:

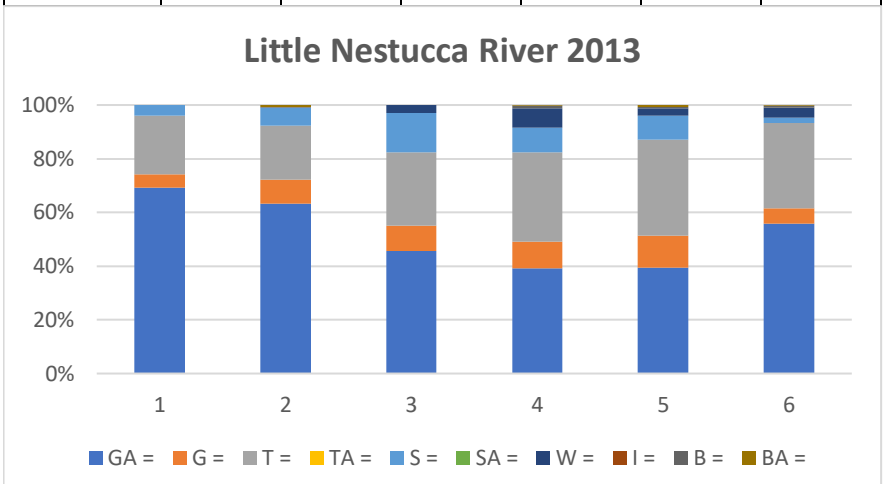
KILCHIS RIVER 2013 PERCENTAGES						
GA =	41.34	33.85	4.39	25.84	49.15	68.23
G =	1.82	0.62	0.34	2.43	3.41	6.35
T =	55.02	61.54	80.07	56.53	39.59	20.07
TA =	0.00	0.00	0.00	0.00	0.00	0.33
S =	0.61	2.15	10.47	11.55	4.78	2.01
SA =	0.00	0.00	0.34	0.30	0.00	0.33
W =	0.00	0.00	3.72	0.30	0.00	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.91	1.23	0.68	0.00	0.34	0.00
BA =	0.30	0.62	0.00	3.04	2.73	2.34



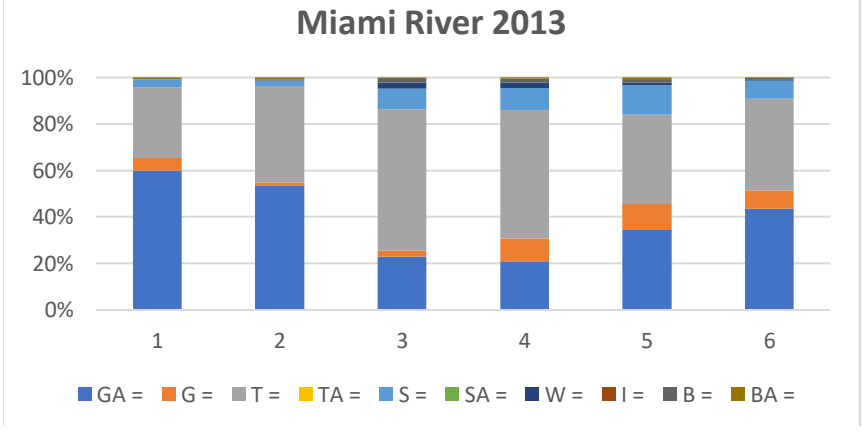
LEWIS & CLARK RIVER 2013 PERCENTAGES						
GA =	32.84	26.70	18.41	15.11	37.79	34.74
G =	6.47	5.83	8.96	4.00	1.84	13.15
T =	54.73	53.40	51.24	33.78	40.55	42.72
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.98	12.62	18.91	20.89	13.82	7.98
SA =	0.00	0.49	0.00	0.00	5.07	0.00
W =	1.00	0.49	1.49	26.22	0.00	0.47
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.50	0.00	0.00	0.47
BA =	0.00	0.49	0.00	0.00	0.92	0.47



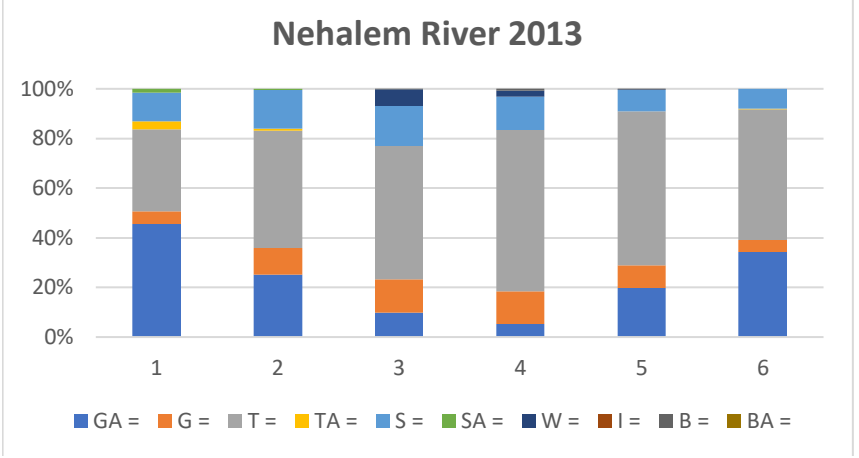
LITTLE NESTUCCA RIVER 2013 PERCENTAGES						
GA =	69.14	63.18	45.42	39.22	39.35	55.56
G =	5.08	9.03	9.49	9.80	11.94	5.56
T =	21.88	20.22	27.12	33.33	35.81	31.70
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.91	6.50	14.58	9.15	9.03	1.96
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	3.05	7.19	2.58	3.59
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.36	0.00	0.98	0.65	0.65
BA =	0.00	0.72	0.00	0.33	0.65	0.33



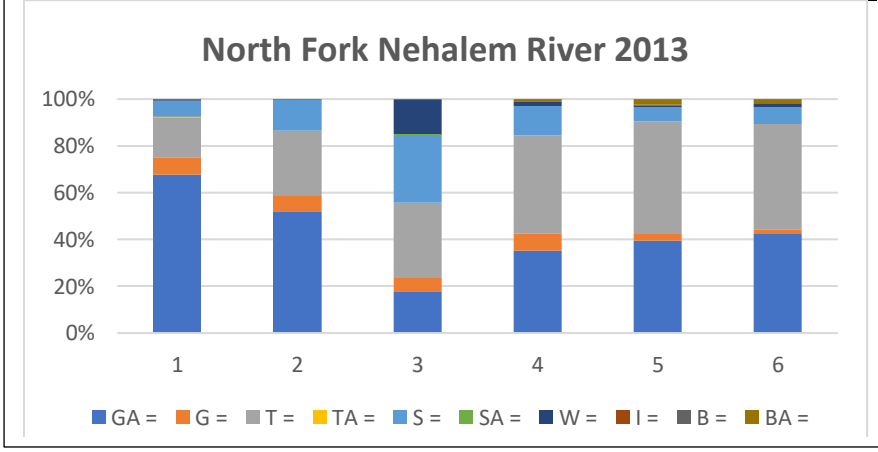
MIAMI RIVER 2013 PERCENTAGES						
GA =	60.00	53.57	23.01	20.95	34.42	43.45
G =	5.43	1.10	2.56	9.84	11.04	7.93
T =	30.29	41.76	60.80	55.24	38.64	39.66
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.43	2.20	8.81	9.52	12.66	7.59
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	2.56	2.22	0.97	0.69
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.55	1.99	1.59	1.30	0.34
BA =	0.86	0.82	0.28	0.63	0.97	0.34



NEHALEM RIVER 2013 PERCENTAGES						
GA =	45.51	25.06	9.71	5.38	19.63	34.20
G =	5.25	10.61	13.47	13.00	9.24	4.99
T =	33.04	47.40	53.42	65.02	62.12	52.49
TA =	3.06	0.68	0.00	0.00	0.00	0.24
S =	11.60	15.58	16.11	13.45	8.55	8.08
SA =	1.53	0.45	0.00	0.00	0.00	0.00
W =	0.00	0.00	6.62	2.47	0.23	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.00	0.00	0.22	0.67	0.23	0.00
BA =	0.00	0.00	0.00	0.00	0.00	0.00

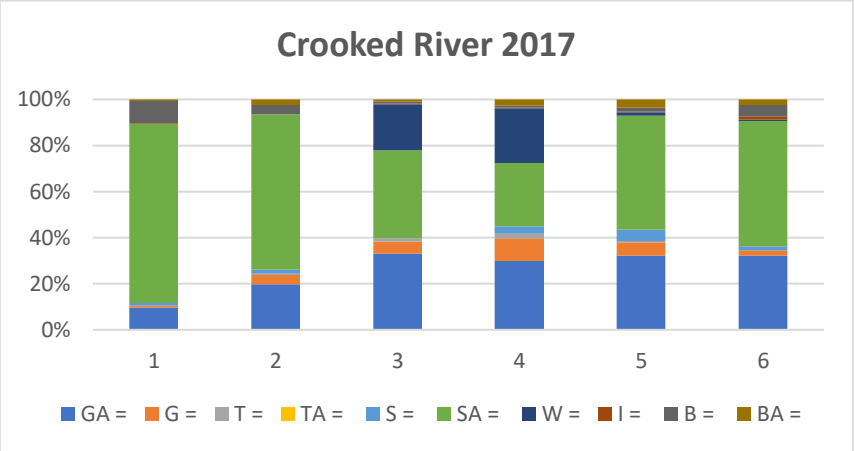


NORTH FORK NEHALEM RIVER 2013 PERCENTAGES						
GA =	67.63	51.99	17.76	35.08	39.58	42.32
G =	7.37	6.50	5.59	7.54	2.78	2.05
T =	16.99	28.16	32.24	41.97	48.26	45.05
TA =	0.64	0.00	0.00	0.00	0.00	0.00
S =	6.73	13.00	28.95	12.46	5.90	7.17
SA =	0.00	0.00	0.33	0.00	0.00	0.00
W =	0.32	0.00	14.47	1.97	0.69	1.37
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	0.32	0.00	0.33	0.00	0.35	0.00
BA =	0.00	0.36	0.00	0.98	2.43	2.05

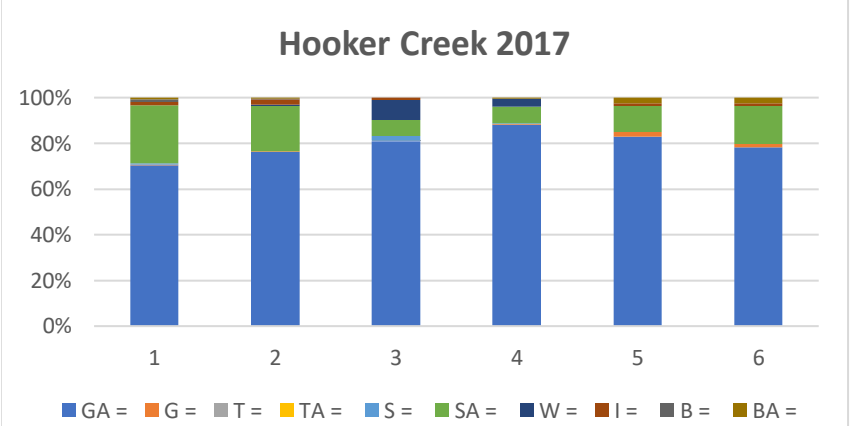


OWYHEE:

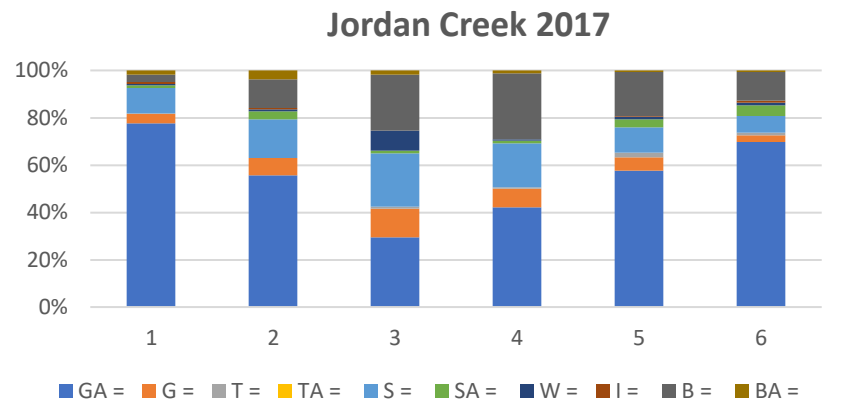
CROOKED RIVER 2017 PERCENTAGES						
GA =	9.65	19.80	33.18	29.78	32.18	32.25
G =	0.80	3.96	5.21	9.93	5.69	2.17
T =	0.00	0.50	1.18	1.94	0.74	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.07	1.73	0.00	3.15	4.95	1.90
SA =	78.02	67.57	38.39	27.60	49.26	54.20
W =	0.00	0.00	19.91	23.73	1.49	0.81
I =	0.27	0.00	0.24	0.24	0.25	1.36
B =	9.38	3.96	0.95	0.97	1.98	4.88
BA =	0.80	2.48	0.95	2.66	3.47	2.44



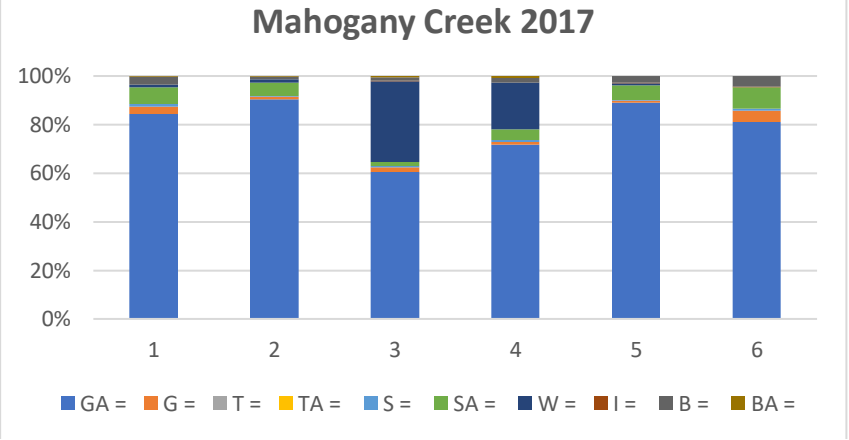
HOOKER CREEK 2017 PERCENTAGES						
GA =	70.23	76.16	80.86	88.08	82.78	78.29
G =	0.38	0.36	0.00	0.33	2.20	1.42
T =	0.00	0.00	0.33	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.76	0.00	1.98	0.33	0.00	0.00
SA =	25.19	19.93	6.93	7.28	11.36	16.73
W =	0.00	0.36	8.91	3.64	0.00	0.00
I =	1.53	2.49	0.99	0.00	1.10	1.07
B =	1.15	0.36	0.00	0.00	0.00	0.00
BA =	0.76	0.36	0.00	0.33	2.56	2.49



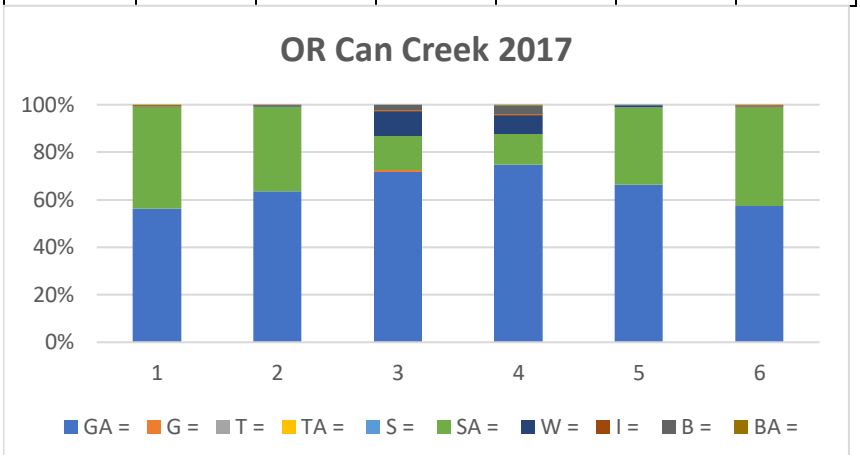
JORDAN CREEK 2017 PERCENTAGES						
GA =	77.78	55.81	29.45	42.19	57.56	69.63
G =	3.70	7.10	12.27	7.81	5.79	3.07
T =	0.31	0.00	0.61	0.63	1.93	0.92
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	10.80	16.45	22.70	18.44	10.61	7.06
SA =	1.23	3.23	0.92	1.25	3.54	4.60
W =	0.31	0.97	8.59	0.63	0.96	1.23
I =	0.93	0.65	0.00	0.00	0.32	0.61
B =	3.09	11.94	23.62	27.81	18.65	12.27
BA =	1.85	3.87	1.84	1.25	0.64	0.61



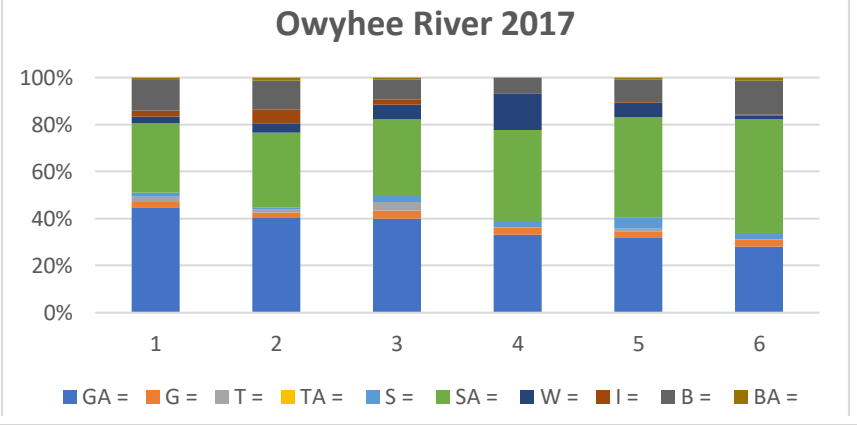
MAHOGANY CREEK 2017 PERCENTAGES						
GA =	84.43	90.44	60.45	71.72	89.04	81.15
G =	2.90	1.09	1.99	1.03	0.80	4.71
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.06	0.27	0.50	1.03	0.27	0.79
SA =	6.86	5.46	1.74	4.37	6.15	8.64
W =	1.06	1.37	33.08	19.02	0.80	0.00
I =	0.00	0.00	0.25	0.00	0.27	0.26
B =	3.43	1.09	1.49	2.06	2.67	4.45
BA =	0.26	0.27	0.50	0.77	0.00	0.00



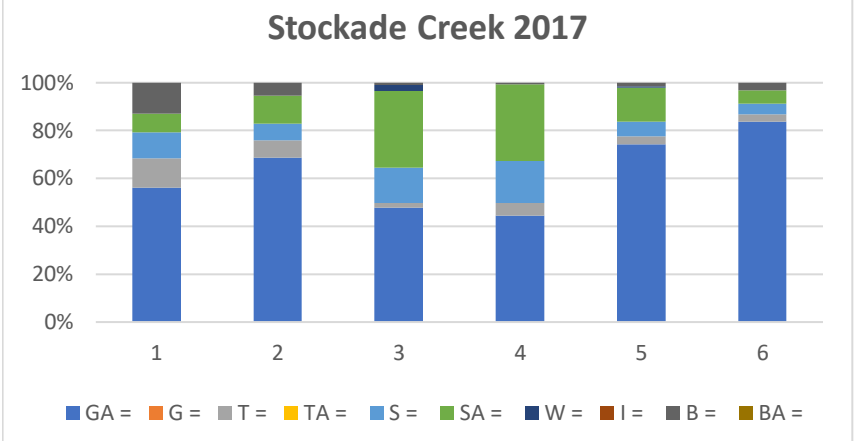
OR CAN CREEK 2017 PERCENTAGES						
GA =	56.27	63.40	72.07	74.81	66.22	57.49
G =	0.00	0.00	0.34	0.00	0.00	0.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.00	0.00	0.00	0.00
SA =	42.59	35.85	14.48	12.79	32.77	41.30
W =	0.38	0.38	10.00	7.75	0.68	0.40
I =	0.00	0.38	0.69	0.39	0.00	0.40
B =	0.00	0.00	2.41	3.88	0.34	0.00
BA =	0.76	0.00	0.00	0.39	0.00	0.40



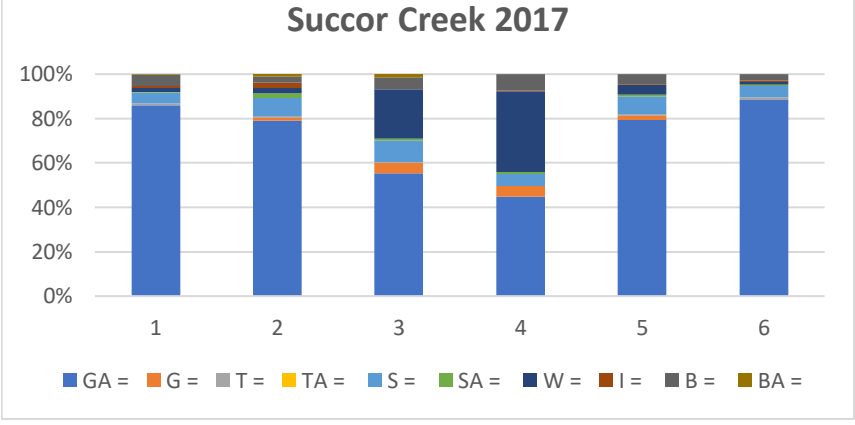
OWYHEE RIVER 2017 PERCENTAGES						
GA =	44.87	40.15	40.07	33.20	32.01	27.98
G =	2.28	2.32	3.31	2.73	2.52	2.88
T =	2.28	1.54	3.68	0.39	1.08	0.41
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.52	0.77	2.57	2.34	5.04	2.06
SA =	29.66	31.66	32.72	39.06	42.45	48.97
W =	2.66	4.25	6.25	15.63	6.12	1.65
I =	2.66	5.79	2.21	0.00	0.36	0.41
B =	12.93	12.36	8.46	6.64	9.71	14.40
BA =	1.14	1.16	0.74	0.00	0.72	1.23



STOCKADE CREEK 2017 PERCENTAGES						
GA =	56.19	68.62	47.87	44.39	74.26	83.67
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	12.37	7.45	1.90	5.35	3.47	3.06
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	10.82	6.91	14.69	17.65	5.94	4.59
SA =	7.73	11.70	32.23	32.09	14.36	5.61
W =	0.00	0.00	2.37	0.00	0.50	0.00
I =	0.00	0.00	0.00	0.00	0.00	0.00
B =	12.89	5.32	0.95	0.53	1.49	3.06
BA =	0.00	0.00	0.00	0.00	0.00	0.00

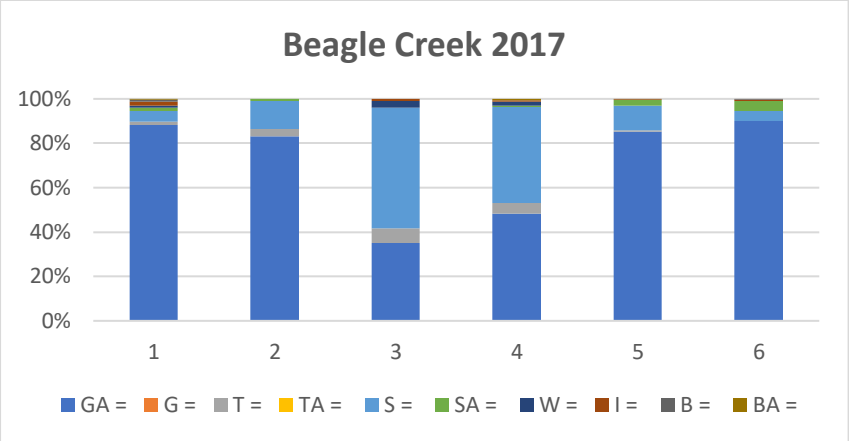


SUCCOR CREEK 2017 PERCENTAGES						
GA =	85.89	79.07	55.43	44.72	79.22	88.22
G =	0.00	1.45	4.57	5.00	2.22	0.00
T =	0.90	0.29	0.29	0.00	0.28	1.21
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.80	8.43	9.71	5.28	8.03	5.14
SA =	0.30	2.03	0.86	0.83	1.11	0.60
W =	1.80	2.62	22.29	36.39	4.43	1.21
I =	0.90	2.33	0.00	0.28	0.28	0.60
B =	5.11	2.62	5.43	7.50	4.43	3.02
BA =	0.30	1.16	1.43	0.00	0.00	0.00

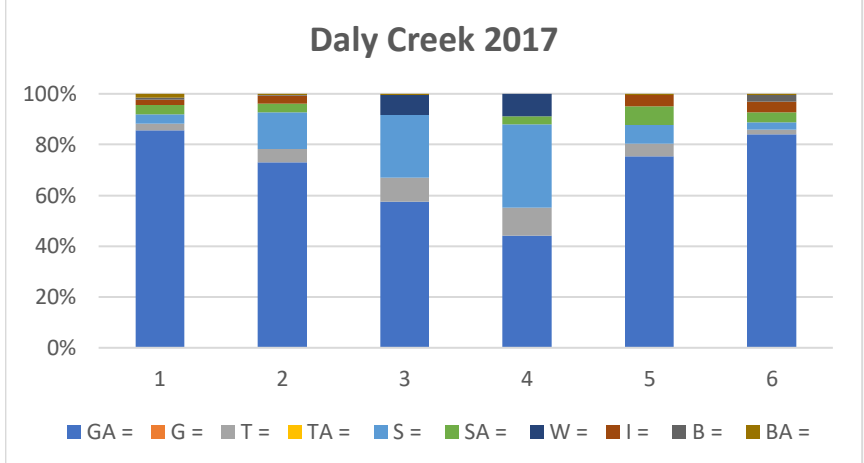


POWDER:

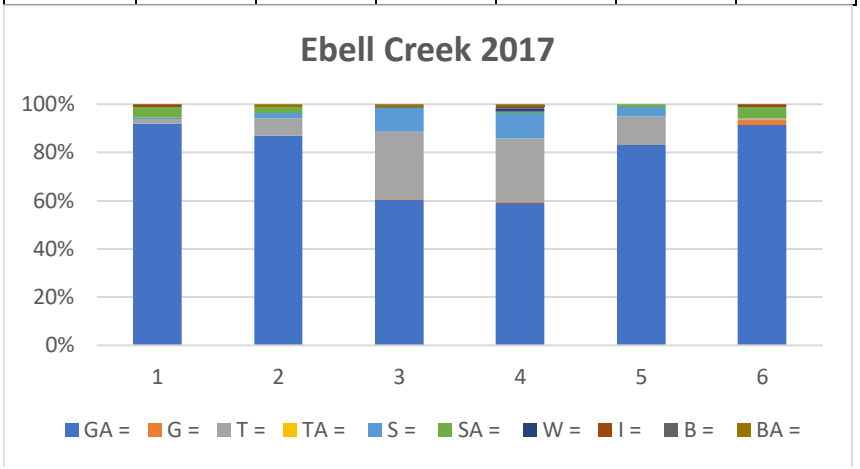
BEAGLE CREEK 2017 PERCENTAGES						
GA =	88.29	83.26	35.20	48.19	85.29	90.00
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	1.35	3.26	6.40	4.82	0.49	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.95	12.56	54.40	43.37	11.27	4.55
SA =	1.35	0.93	0.00	0.60	2.45	4.55
W =	0.90	0.00	3.20	1.81	0.00	0.00
I =	1.80	0.00	0.80	0.60	0.49	0.45
B =	0.90	0.00	0.00	0.00	0.00	0.45
BA =	0.45	0.00	0.00	0.60	0.00	0.00



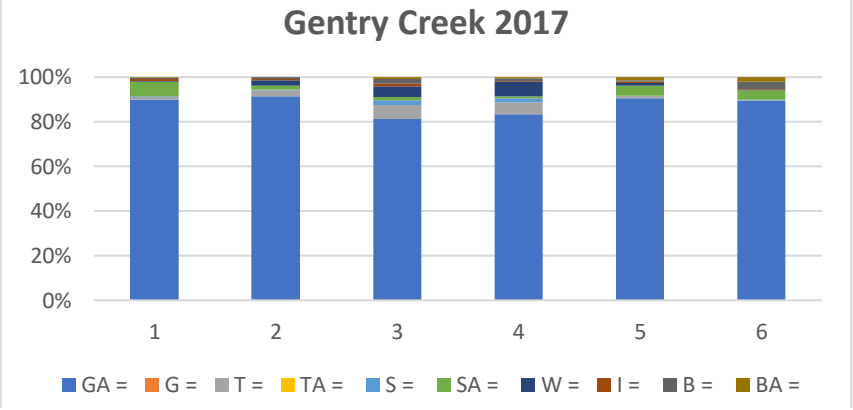
DALY CREEK 2017 PERCENTAGES						
GA =	85.54	72.97	57.65	44.12	75.41	84.00
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	2.81	5.41	9.41	11.03	4.92	2.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.61	14.29	24.71	32.72	7.38	2.80
SA =	3.61	3.47	0.00	3.31	7.38	4.00
W =	0.00	0.00	7.84	8.82	0.00	0.00
I =	2.01	3.09	0.00	0.00	4.51	4.00
B =	0.80	0.39	0.00	0.00	0.00	2.80
BA =	1.61	0.39	0.39	0.00	0.41	0.40



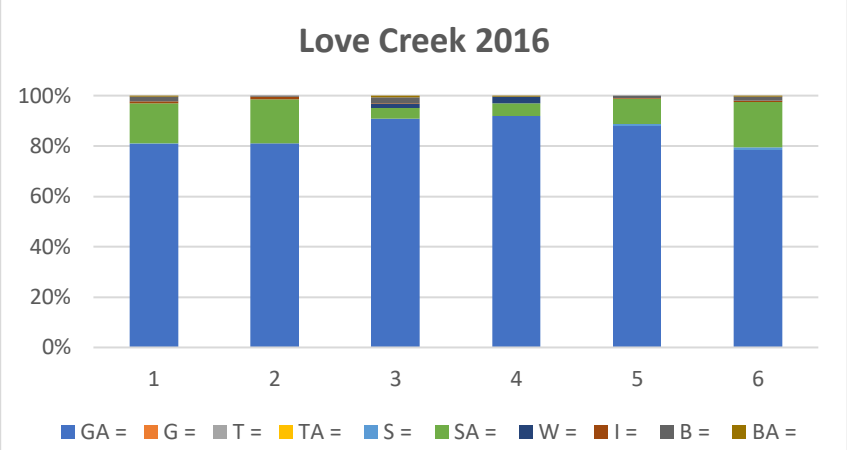
EBELL CREEK 2017 PERCENTAGES						
GA =	92.05	87.10	60.31	59.16	83.23	91.35
G =	0.00	0.00	0.52	0.52	0.00	2.16
T =	1.70	6.99	27.84	26.18	11.80	0.54
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.57	2.15	9.79	10.47	3.73	0.00
SA =	4.55	2.69	0.00	0.52	1.24	4.86
W =	0.00	0.00	0.52	1.57	0.00	0.00
I =	1.14	0.00	0.00	0.52	0.00	1.08
B =	0.00	0.00	0.00	0.52	0.00	0.00
BA =	0.00	1.08	1.03	0.52	0.00	0.00



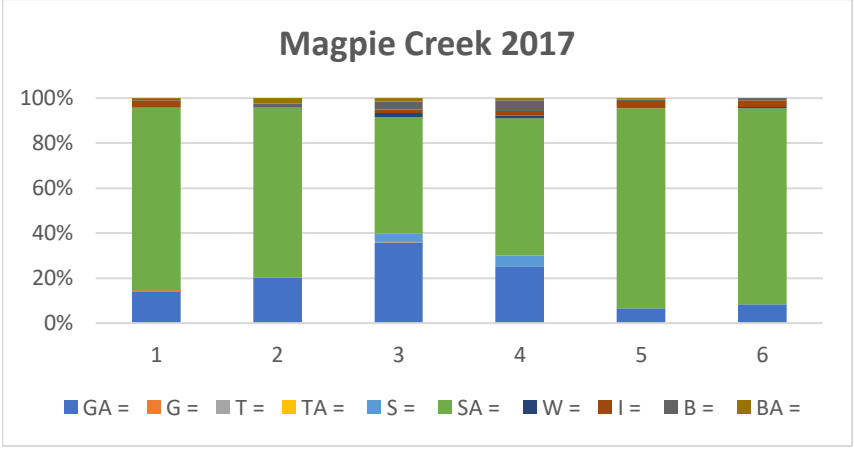
GENTRY CREEK 2017 PERCENTAGES						
GA =	89.84	91.41	81.11	83.44	90.58	89.17
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	1.27	2.75	6.50	5.30	0.97	0.32
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.32	0.34	1.86	1.66	0.00	0.32
SA =	6.67	1.72	1.55	0.99	4.55	4.14
W =	0.32	2.41	4.95	6.62	1.30	0.32
I =	0.63	0.69	1.24	0.33	0.65	0.32
B =	0.63	0.69	1.86	0.99	0.65	3.50
BA =	0.32	0.00	0.93	0.66	1.30	1.91



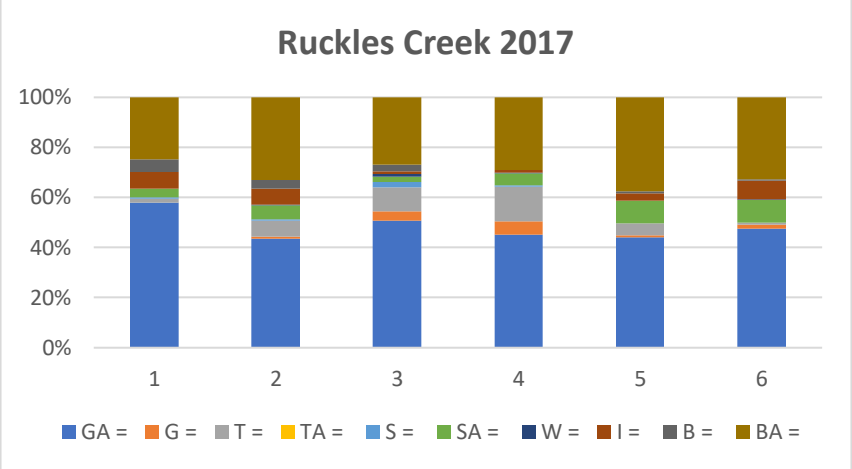
LOVE CREEK 2017 PERCENTAGES						
GA =	80.78	81.17	90.87	91.95	87.92	78.37
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	0.00	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.39	0.00	0.00	0.00	0.83	1.22
SA =	15.69	17.49	4.18	5.08	10.00	17.96
W =	0.00	0.00	1.52	2.54	0.00	0.00
I =	0.78	0.90	0.38	0.00	0.42	0.41
B =	1.96	0.45	2.28	0.00	0.83	1.63
BA =	0.39	0.00	0.76	0.42	0.00	0.41



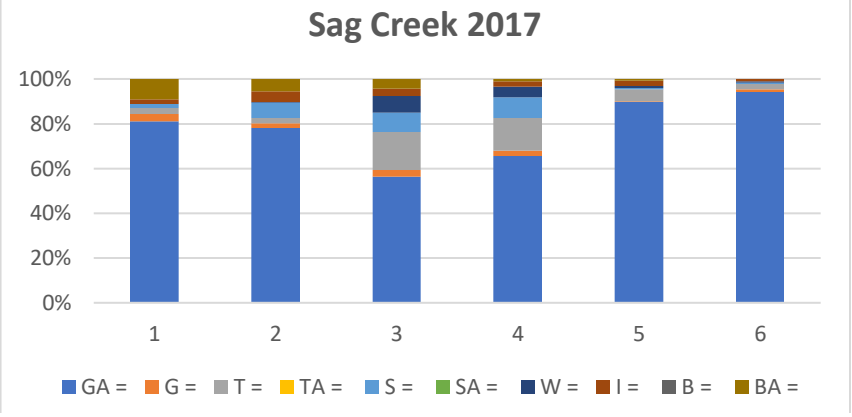
MAGPIE CREEK 2017 PERCENTAGES						
GA =	13.90	20.12	35.75	25.26	6.62	8.38
G =	0.53	0.00	0.00	0.00	0.00	0.00
T =	0.00	0.00	0.56	0.00	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	3.35	4.74	0.00	0.00
SA =	81.28	75.61	51.96	61.05	88.74	87.15
W =	0.00	0.00	1.68	1.05	0.00	0.56
I =	3.21	0.00	1.68	2.11	3.31	2.79
B =	0.53	1.83	3.35	4.74	0.66	1.12
BA =	0.53	2.44	1.68	1.05	0.66	0.00



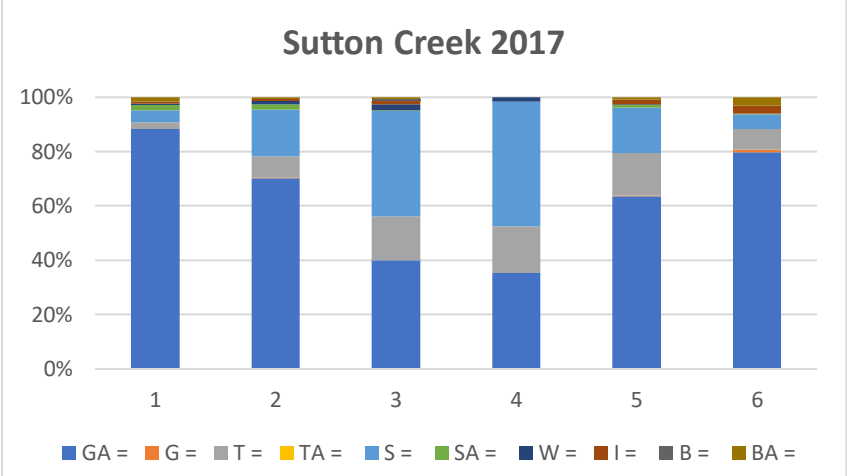
RUCKLES CREEK 2017 PERCENTAGES						
GA =	58.05	43.64	50.65	45.24	43.97	47.66
G =	0.00	0.85	3.90	5.24	0.86	1.40
T =	1.46	6.36	9.52	13.81	4.74	0.93
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.49	0.42	2.16	0.48	0.00	0.00
SA =	3.41	5.51	2.16	4.76	9.05	8.88
W =	0.00	0.42	0.87	0.48	0.00	0.47
I =	6.83	6.36	1.30	0.95	3.02	7.48
B =	4.88	3.39	2.60	0.00	0.86	0.47
BA =	24.88	33.05	26.84	29.05	37.50	32.71



SAG CREEK 2017 PERCENTAGES						
GA =	81.15	78.17	56.37	65.64	89.64	94.12
G =	3.08	1.98	3.09	2.32	0.40	1.18
T =	2.69	2.38	16.99	14.67	5.18	2.35
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	1.92	6.75	8.49	9.27	0.80	0.78
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.40	7.34	4.63	0.80	0.39
I =	1.92	4.76	3.47	2.32	2.39	1.18
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	9.23	5.56	4.25	1.16	0.80	0.00

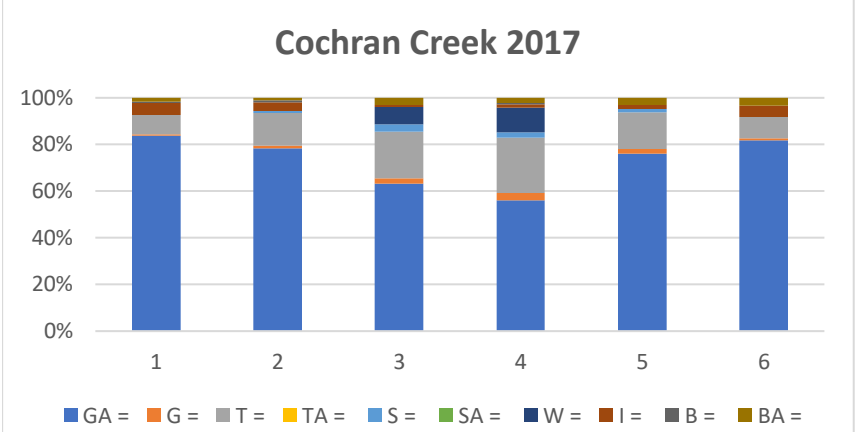


SUTTON CREEK 2017 PERCENTAGES						
GA =	88.38	70.19	40.06	35.40	63.45	79.80
G =	0.00	0.31	0.00	0.00	0.29	0.99
T =	2.45	7.76	16.08	17.08	15.79	7.62
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.28	17.08	38.89	45.96	16.67	5.30
SA =	2.14	2.17	0.29	0.00	0.88	0.33
W =	0.31	1.24	2.05	1.55	0.29	0.00
I =	0.92	0.62	1.17	0.00	1.75	2.98
B =	0.00	0.00	0.88	0.00	0.00	0.00
BA =	1.53	0.62	0.58	0.00	0.88	2.98

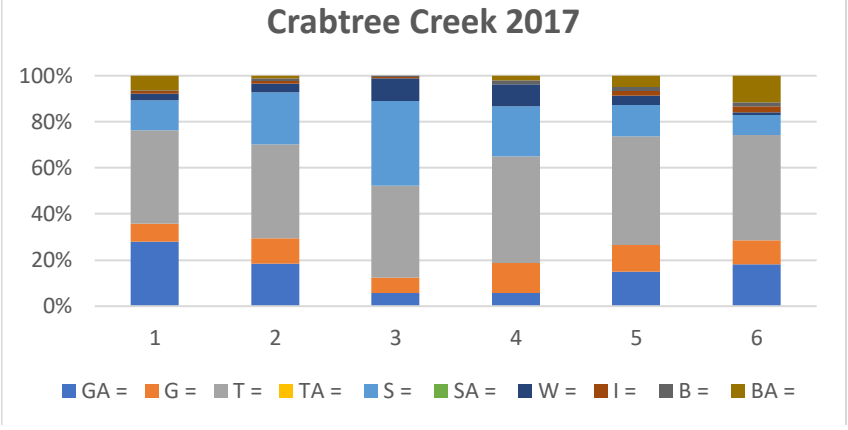


SOUTH SANTIAM:

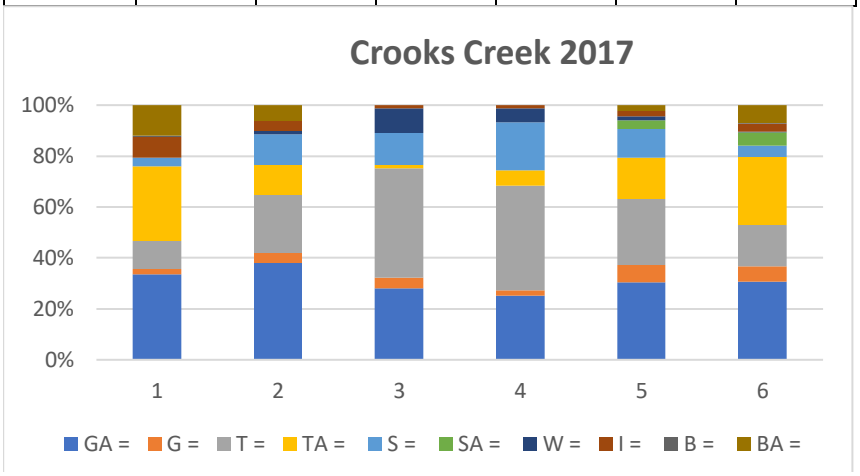
COCHRAN CREEK 2017 PERCENTAGES						
GA =	83.91	78.41	63.22	55.98	76.19	81.78
G =	0.38	1.14	2.30	3.09	1.98	0.78
T =	8.43	14.02	19.92	23.94	15.48	9.30
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.76	3.07	2.32	1.59	0.00
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	7.66	10.42	0.00	0.00
I =	4.98	3.79	0.77	1.54	1.59	4.65
B =	0.77	0.76	0.00	0.39	0.00	0.00
BA =	1.53	1.14	3.07	2.32	3.17	3.49



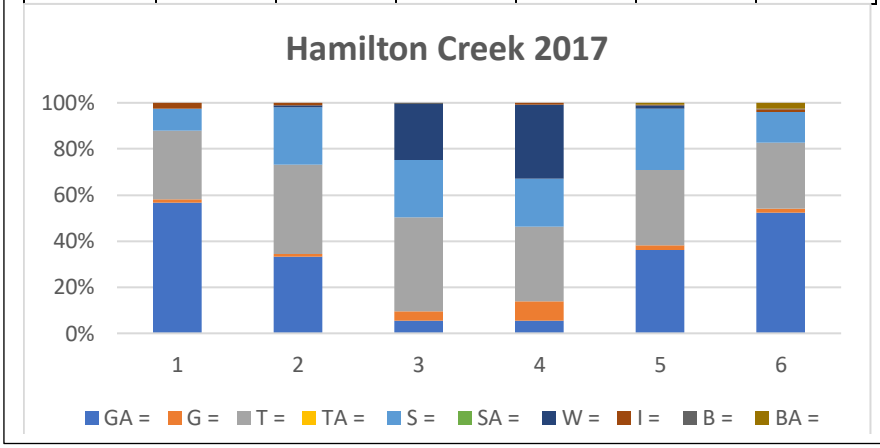
CRABTREE CREEK 2017 PERCENTAGES						
GA =	27.95	18.33	5.60	5.76	14.89	18.03
G =	7.95	11.11	6.72	12.97	11.52	10.66
T =	40.55	40.83	40.06	46.40	47.19	45.63
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	12.88	22.50	36.69	21.61	13.76	8.74
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	3.01	3.89	9.80	9.51	3.93	1.09
I =	1.10	1.11	0.56	0.00	1.97	2.46
B =	0.27	1.11	0.56	1.73	1.97	1.91
BA =	6.30	1.11	0.00	2.02	4.78	11.48



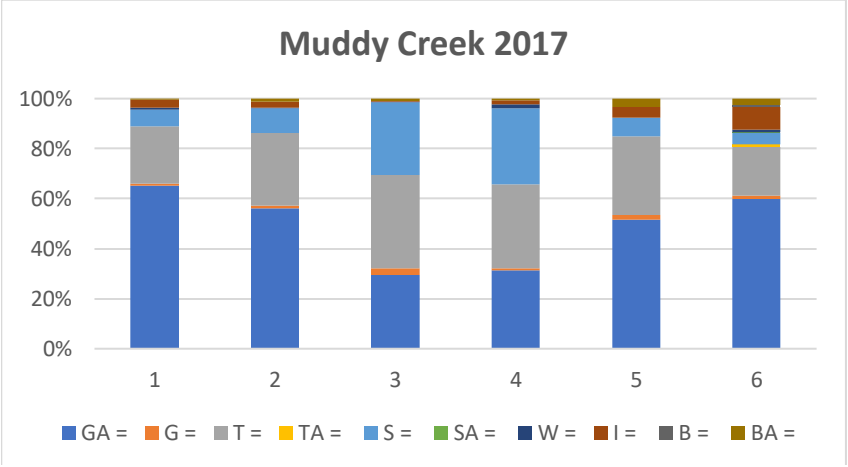
CROOKS CREEK 2017 PERCENTAGES						
GA =	33.47	37.92	28.03	25.28	30.45	30.60
G =	2.07	4.09	4.18	1.89	6.77	6.03
T =	11.16	22.68	43.10	41.13	25.94	16.38
TA =	29.34	11.90	1.26	6.04	16.17	26.72
S =	3.31	11.90	12.55	18.87	11.28	4.31
SA =	0.00	0.00	0.00	0.00	3.38	5.17
W =	0.00	1.49	9.62	5.66	1.50	0.43
I =	8.26	3.72	1.26	1.13	2.26	3.02
B =	0.41	0.00	0.00	0.00	0.00	0.43
BA =	11.98	6.32	0.00	0.00	2.26	6.90



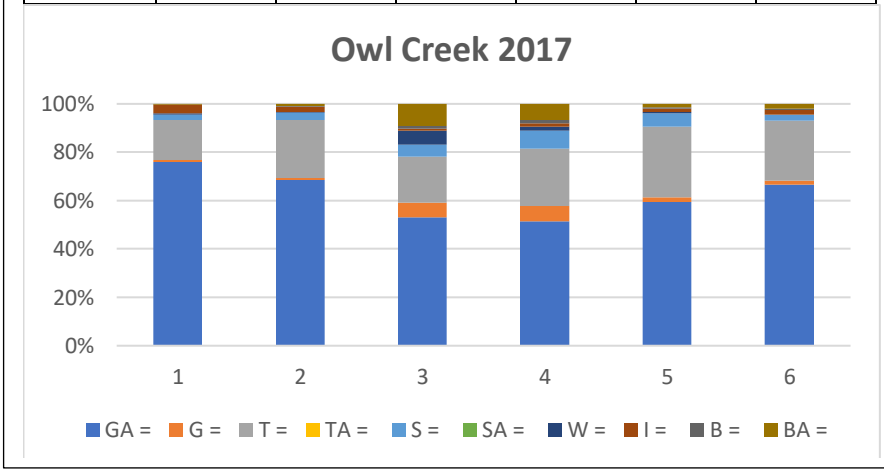
HAMILTON CREEK 2017 PERCENTAGES						
GA =	56.63	33.33	5.60	5.60	36.29	52.40
G =	1.61	1.22	4.00	8.40	2.02	1.60
T =	29.72	38.62	40.80	32.40	32.66	28.80
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	9.64	24.80	24.80	20.80	26.61	13.20
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.81	24.40	32.00	1.21	0.00
I =	2.41	1.22	0.00	0.80	0.40	1.20
B =	0.00	0.00	0.40	0.00	0.00	0.40
BA =	0.00	0.00	0.00	0.00	0.81	2.40



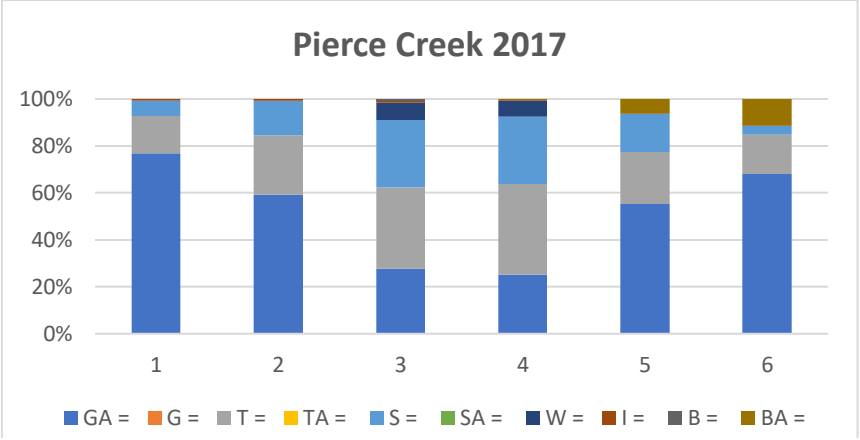
MUDDY CREEK 2017 PERCENTAGES						
GA =	65.25	56.02	29.46	31.27	51.67	59.87
G =	0.80	1.20	2.55	0.88	1.82	1.25
T =	22.81	28.92	37.39	33.63	31.31	19.44
TA =	0.00	0.00	0.00	0.00	0.00	1.25
S =	6.63	9.94	29.18	30.38	7.60	4.39
SA =	0.00	0.00	0.00	0.00	0.00	0.31
W =	0.80	0.30	0.28	1.47	0.00	0.94
I =	3.18	2.41	0.28	1.77	4.26	9.09
B =	0.00	0.00	0.00	0.00	0.00	0.94
BA =	0.53	1.20	0.85	0.59	3.34	2.51



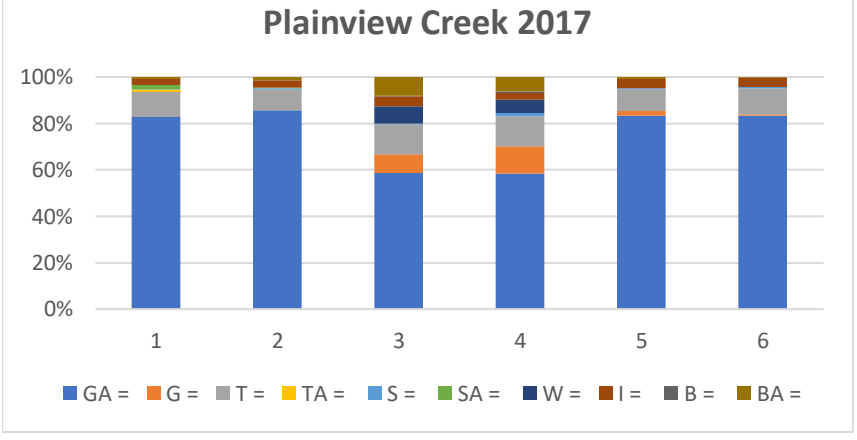
OWL CREEK 2017 PERCENTAGES						
GA =	75.89	68.52	53.09	51.48	59.30	66.53
G =	0.79	0.74	6.17	6.33	1.94	1.63
T =	16.60	24.07	18.93	23.63	29.46	24.90
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.37	2.96	4.94	7.59	5.43	2.45
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.40	0.37	5.76	1.69	0.39	0.00
I =	3.56	2.22	0.82	1.27	1.55	2.04
B =	0.00	0.37	1.23	1.27	0.39	0.41
BA =	0.40	0.74	9.05	6.75	1.55	2.04



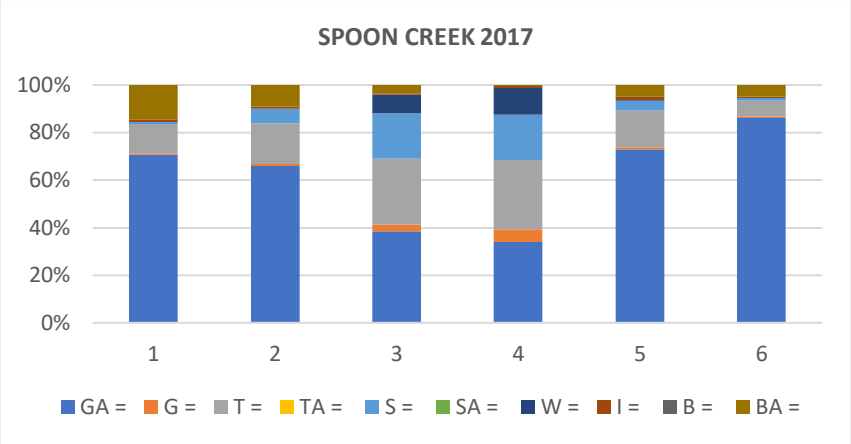
PIERCE CREEK 2017 PERCENTAGES						
GA =	76.75	59.34	27.61	25.28	55.12	67.91
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	15.87	25.27	34.70	38.49	22.26	16.79
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.64	14.29	28.73	28.68	16.25	3.73
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.37	7.46	6.79	0.00	0.00
I =	0.74	0.73	0.75	0.38	0.35	0.37
B =	0.00	0.00	0.75	0.00	0.00	0.00
BA =	0.00	0.00	0.00	0.38	6.01	11.19



PLAINVIEW CREEK 2017 PERCENTAGES						
GA =	0.00	0.00	7.92	11.93	1.96	0.40
G =	10.92	8.96	12.92	12.84	9.31	11.29
T =	0.84	0.00	0.00	0.00	0.00	0.00
TA =	0.00	0.50	0.42	1.38	0.49	0.40
S =	2.10	0.50	0.00	0.00	0.00	0.00
SA =	0.00	0.00	7.50	5.96	0.00	0.00
W =	2.52	2.99	4.17	2.75	3.92	4.03
I =	0.00	0.00	0.42	0.46	0.00	0.00
B =	0.84	1.49	7.92	6.42	0.98	0.40
BA =	0.00	0.00	7.92	11.93	1.96	0.40

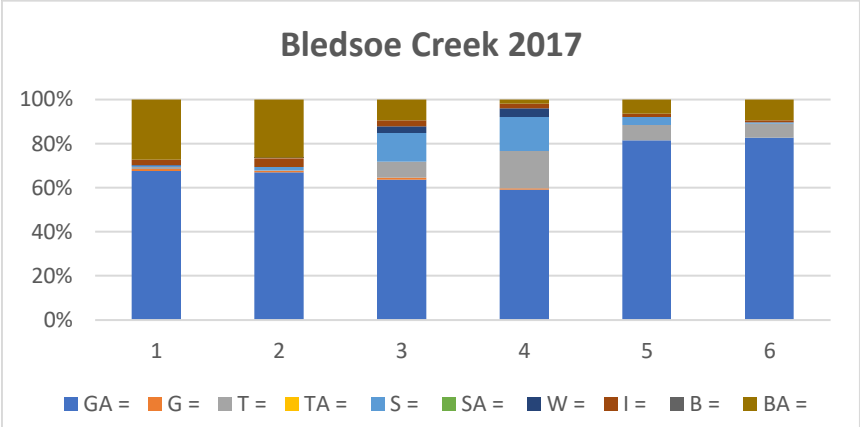


SPOON CREEK 2017 PERCENTAGES						
GA =	70.83	65.83	38.49	34.08	73.03	86.26
G =	0.38	0.83	2.78	5.24	0.83	0.38
T =	12.50	17.08	27.78	29.21	15.35	6.87
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.76	6.25	19.05	19.10	4.15	1.15
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	7.94	11.24	0.41	0.00
I =	1.14	0.83	0.40	0.75	1.24	0.38
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	14.39	9.17	3.57	0.37	4.98	4.96

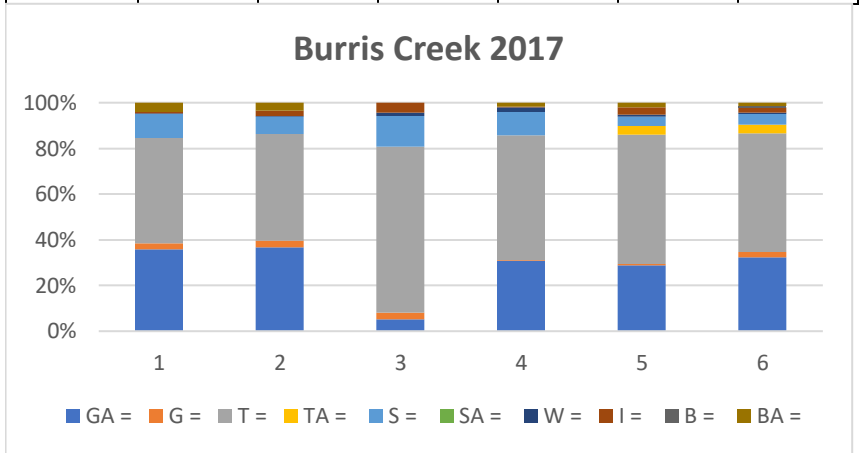


TUALATIN:

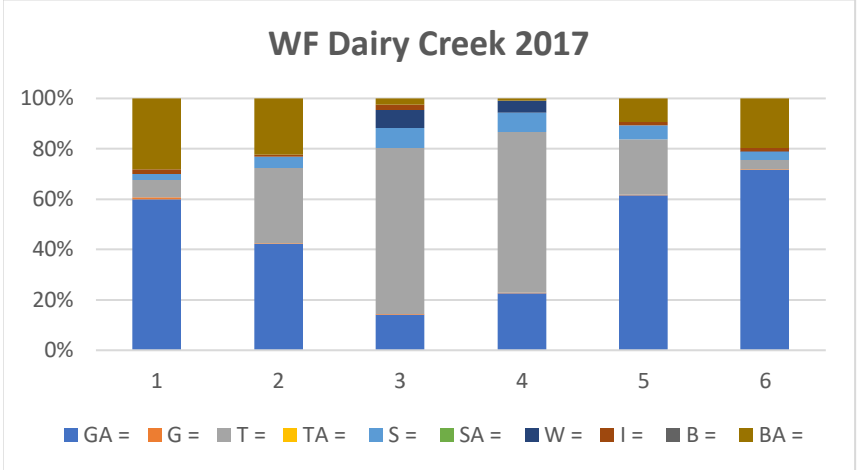
BLEDSOE CREEK 2017 PERCENTAGES						
GA =	67.48	66.99	63.68	59.22	81.40	82.76
G =	0.97	0.49	0.94	0.49	0.00	0.00
T =	0.97	0.49	7.08	16.99	6.98	6.40
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.49	1.46	13.21	15.53	3.72	0.49
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.49	0.00	2.83	3.88	0.00	0.00
I =	2.43	3.88	2.83	1.94	1.40	0.99
B =	0.00	0.49	0.00	0.00	0.00	0.00
BA =	27.18	26.21	9.43	1.94	6.51	9.36



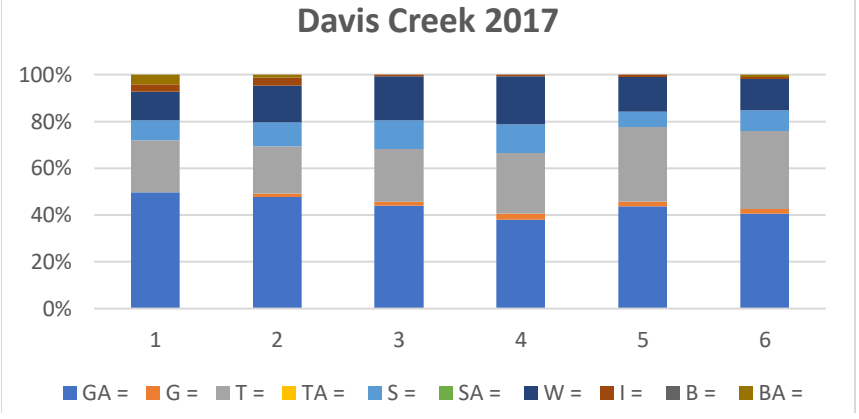
BURRIS CREEK 2017 PERCENTAGES						
GA =	35.87	36.84	5.31	30.85	28.85	32.37
G =	2.54	2.63	2.90	0.34	0.64	2.16
T =	46.01	46.71	72.46	54.58	56.41	52.16
TA =	0.00	0.00	0.00	0.00	3.85	3.60
S =	10.51	7.57	13.53	10.17	4.17	4.68
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.36	0.33	1.45	2.03	0.96	0.72
I =	0.72	2.30	4.35	0.34	3.21	2.16
B =	0.00	0.00	0.00	0.00	0.00	0.72
BA =	3.99	3.62	0.00	1.69	1.92	1.44



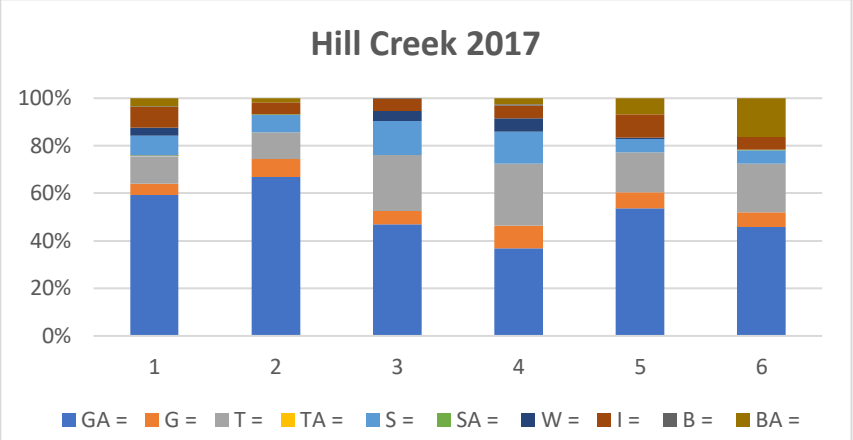
WF DAIRY CREEK 2017 PERCENTAGES						
GA =	59.89	42.22	14.25	22.53	61.41	71.63
G =	0.85	0.28	0.28	0.27	0.27	0.28
T =	6.78	30.00	65.81	63.74	22.01	3.65
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	2.54	4.44	7.98	7.69	5.71	3.09
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	7.12	4.95	0.00	0.28
I =	1.69	0.83	1.99	0.00	1.36	1.40
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	28.25	22.22	2.56	0.82	9.24	19.66



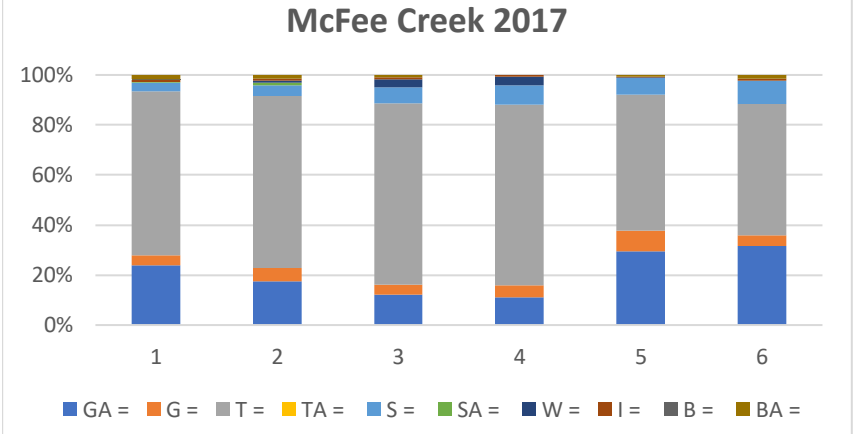
DAVIS CREEK 2017 PERCENTAGES						
GA =	49.83	47.80	43.86	37.88	43.59	40.52
G =	0.00	1.36	1.75	2.73	2.20	1.96
T =	21.99	20.34	22.46	25.94	31.87	33.33
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	8.59	10.17	12.28	12.29	6.59	8.82
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	12.37	15.59	18.95	20.48	14.65	13.40
I =	3.09	3.39	0.70	0.68	1.10	0.98
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	4.12	1.36	0.00	0.00	0.00	0.98



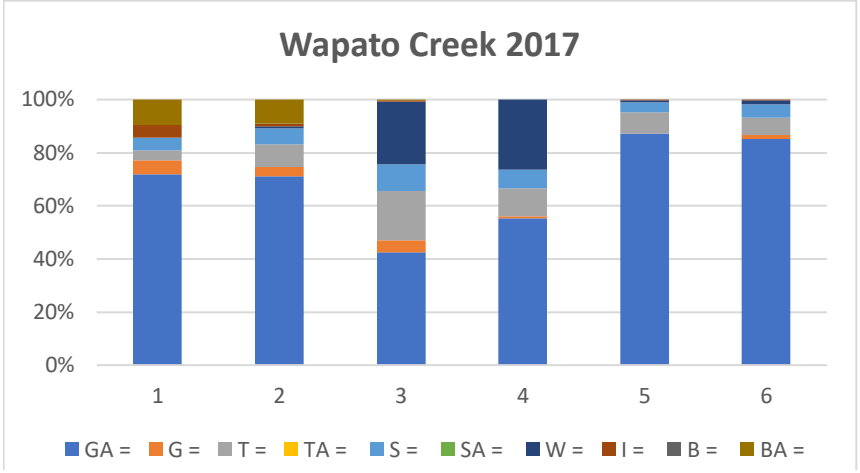
HILL CREEK 2017 PERCENTAGES						
GA =	59.18	67.00	46.93	36.79	53.57	45.80
G =	4.76	7.33	5.50	9.70	6.82	6.29
T =	11.56	11.33	23.62	26.09	16.88	20.28
TA =	0.34	0.00	0.00	0.00	0.00	0.00
S =	8.50	7.33	14.24	13.38	5.52	5.59
SA =	0.00	0.33	0.00	0.00	0.00	0.35
W =	3.40	0.00	4.21	5.69	0.65	0.00
I =	8.50	5.00	5.18	5.35	9.74	5.24
B =	0.34	0.00	0.32	0.33	0.00	0.00
BA =	3.40	1.67	0.00	2.68	6.82	16.43



MCFEE CREEK 2017 PERCENTAGES						
GA =	23.92	17.61	12.25	11.05	29.36	31.74
G =	4.03	5.07	3.99	4.82	8.26	4.19
T =	65.42	68.96	72.36	72.24	54.43	52.40
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.46	4.18	6.55	7.65	6.73	9.28
SA =	0.29	1.19	0.00	0.00	0.00	0.00
W =	0.00	0.60	3.13	3.68	0.31	0.00
I =	0.86	0.90	0.85	0.57	0.31	0.90
B =	0.29	0.00	0.00	0.00	0.00	0.00
BA =	1.73	1.49	0.85	0.00	0.61	1.50

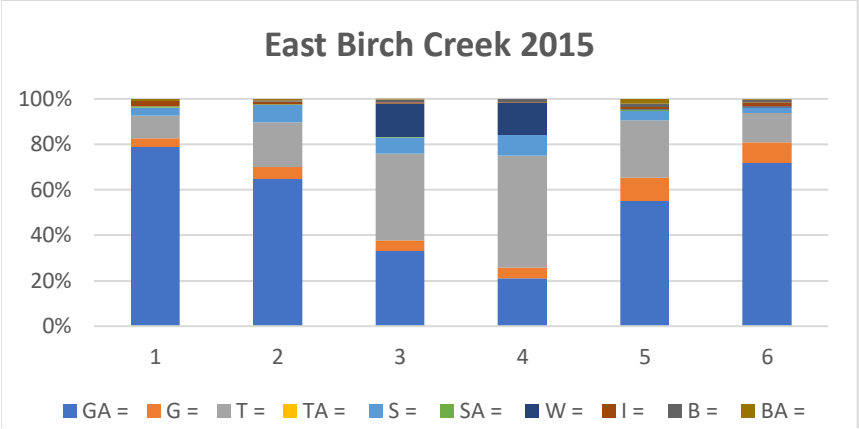


WAPATO CREEK 2017 PERCENTAGES						
GA =	71.86	71.09	42.55	55.29	87.17	85.23
G =	5.32	3.52	4.36	0.78	0.00	1.52
T =	3.80	8.59	18.55	10.59	7.92	6.44
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	4.56	5.86	10.18	7.06	3.77	4.92
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.78	23.64	26.27	0.75	1.52
I =	4.94	1.17	0.36	0.00	0.38	0.38
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	9.51	8.98	0.36	0.00	0.00	0.00

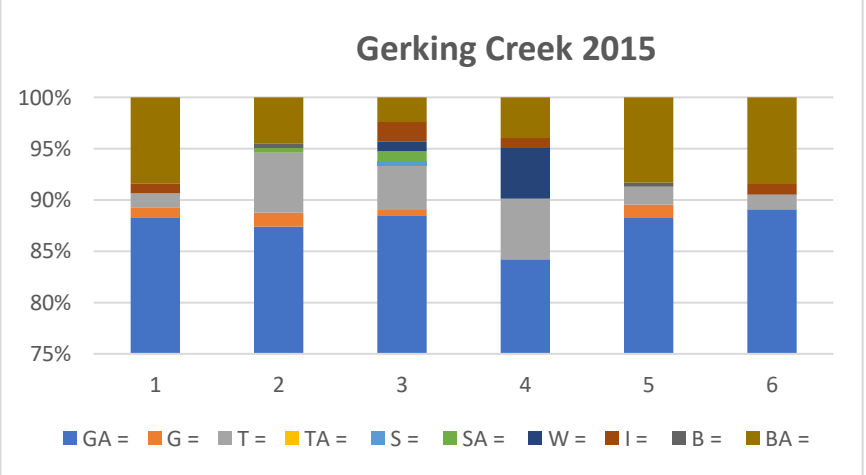


UMATILLA:

EAST BIRCH CREEK 2015 PERCENTAGES						
GA =	78.80	64.77	33.02	21.15	55.20	71.68
G =	3.86	5.15	4.68	4.70	10.15	9.27
T =	9.88	19.78	38.17	49.09	25.25	12.78
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.61	7.59	7.03	9.14	3.96	2.51
SA =	0.72	0.27	0.23	0.00	0.74	0.00
W =	0.00	0.00	14.75	14.10	0.25	0.50
I =	2.17	1.36	0.47	0.26	0.99	1.75
B =	0.00	0.54	1.41	1.57	1.24	1.25
BA =	0.96	0.54	0.23	0.00	2.23	0.25

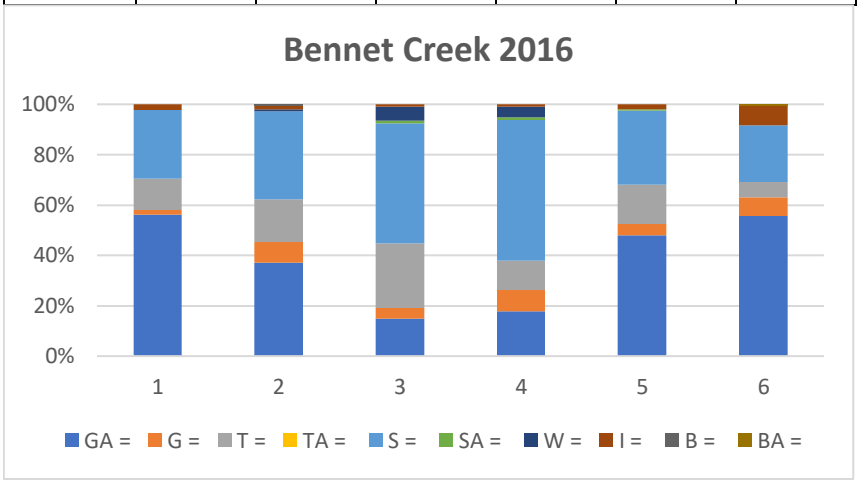


GERKING CREEK 2015 PERCENTAGES						
GA =	88.32	87.39	88.52	84.24	88.21	89.05
G =	0.93	1.35	0.48	0.00	1.31	0.00
T =	1.40	5.86	4.31	5.91	1.75	1.49
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.00	0.48	0.00	0.00	0.00
SA =	0.00	0.45	0.96	0.00	0.00	0.00
W =	0.00	0.00	0.96	4.93	0.00	0.00
I =	0.93	0.00	1.91	0.99	0.00	1.00
B =	0.00	0.45	0.00	0.00	0.44	0.00
BA =	8.41	4.50	2.39	3.94	8.30	8.46

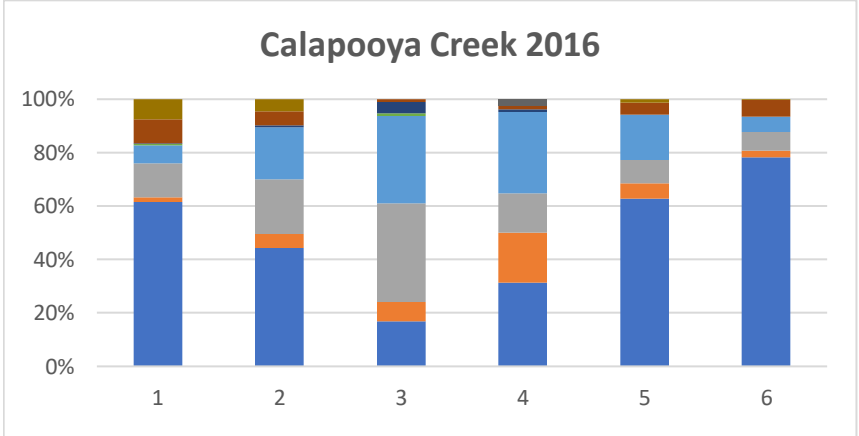


UMPQUA:

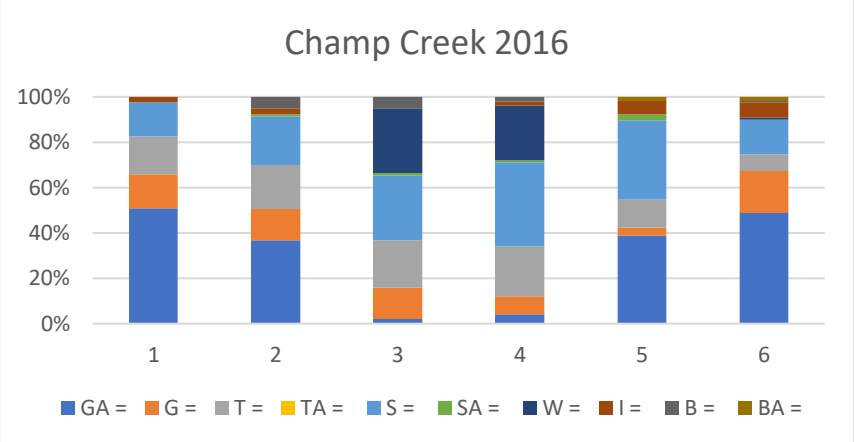
BENNET CREEK 2016 PERCENTAGES						
GA =	56.21	36.99	14.89	17.89	48.05	55.76
G =	1.78	8.22	4.26	8.42	4.55	7.27
T =	12.43	17.12	25.53	11.58	15.58	6.06
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	27.22	34.93	47.87	55.79	29.22	22.42
SA =	0.00	0.00	1.06	1.05	0.65	0.00
W =	0.00	0.68	5.32	4.21	0.00	0.00
I =	2.37	1.37	1.06	1.05	1.95	7.88
B =	0.00	0.68	0.00	0.00	0.00	0.00
BA =	0.00	0.00	0.00	0.00	0.00	0.61



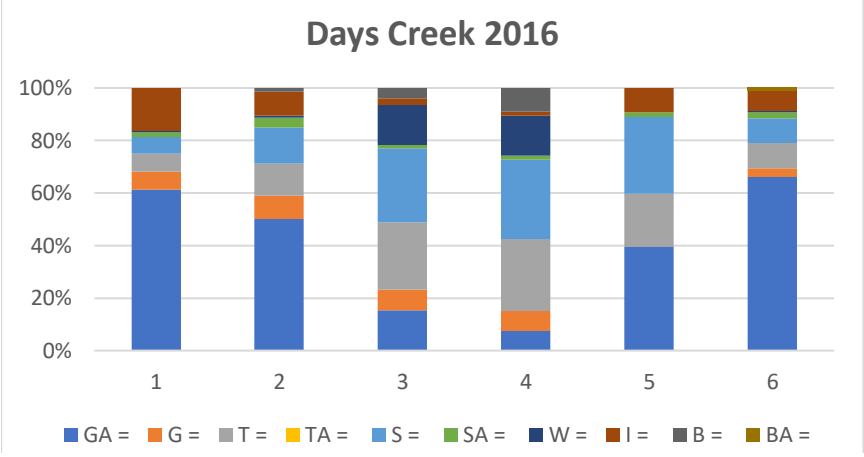
CALAPOOYA CREEK 2016 PERCENTAGES						
GA =	61.60	44.36	16.84	31.25	62.79	78.34
G =	1.69	5.26	7.37	18.75	5.81	2.53
T =	12.66	20.30	36.84	14.84	8.72	6.86
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.75	19.55	32.63	30.47	16.86	5.78
SA =	0.42	0.00	1.05	0.00	0.00	0.00
W =	0.42	0.75	4.21	0.78	0.00	0.00
I =	8.86	5.26	1.05	1.56	4.65	6.14
B =	0.00	0.00	0.00	2.34	0.00	0.00
BA =	7.59	4.51	0.00	0.00	1.16	0.36



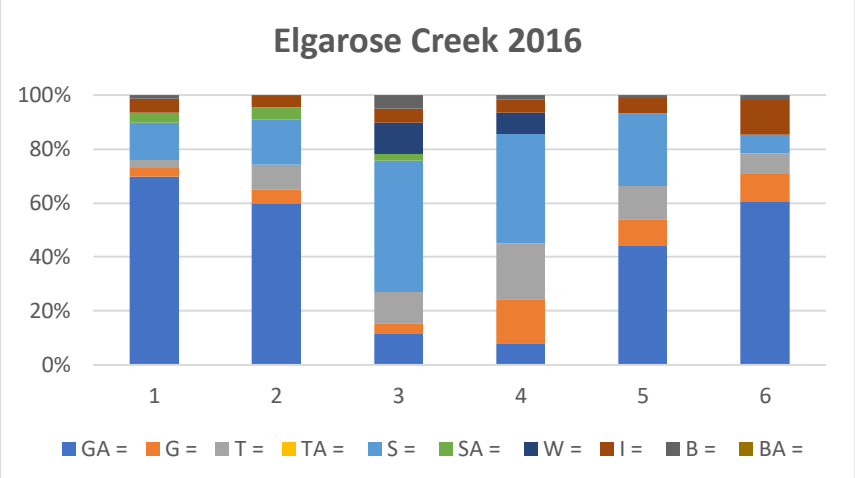
CHAMP CREEK 2016 PERCENTAGES						
GA =	50.79	36.75	1.98	4.00	38.68	48.74
G =	15.08	13.68	13.86	8.00	3.77	18.49
T =	16.67	19.66	20.79	22.00	12.26	7.56
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	15.08	21.37	28.71	37.00	34.91	15.13
SA =	0.00	0.85	0.99	1.00	2.83	0.00
W =	0.00	0.00	28.71	24.00	0.00	0.84
I =	2.38	2.56	0.00	2.00	5.66	6.72
B =	0.00	5.13	4.95	2.00	0.00	0.84
BA =	0.00	0.00	0.00	0.00	1.89	1.68



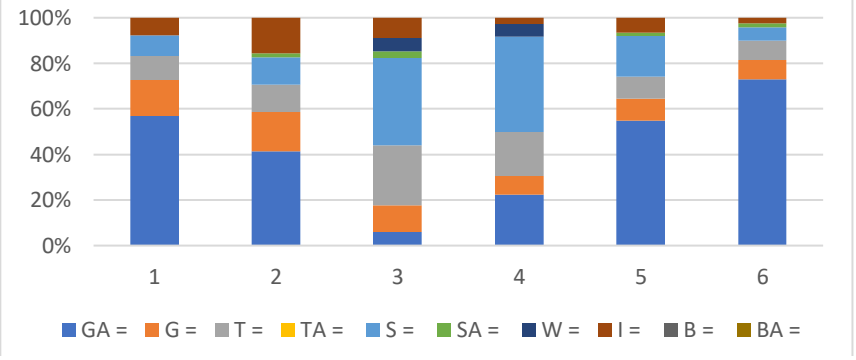
DAYS CREEK 2016 PERCENTAGES						
GA =	61.17	50.00	15.38	7.58	39.45	66.15
G =	6.91	9.09	7.69	7.58	0.00	3.13
T =	6.91	12.12	25.64	27.27	20.18	9.90
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.38	13.64	28.21	30.30	29.36	9.38
SA =	1.60	3.79	1.28	1.52	1.83	2.08
W =	0.53	0.76	15.38	15.15	0.00	0.52
I =	16.49	9.09	2.56	1.52	9.17	7.81
B =	0.00	1.52	3.85	9.09	0.00	0.00
BA =	0.00	0.00	0.00	0.00	0.00	1.04



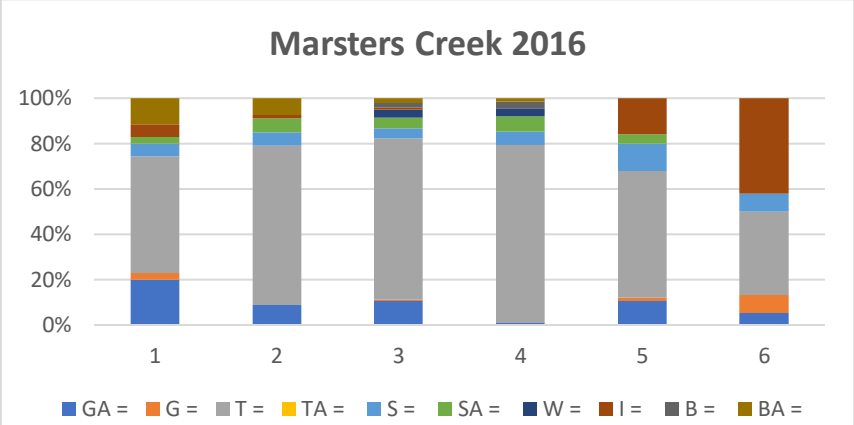
ELGAROSE CREEK 2016 PERCENTAGES						
GA =	69.88	59.85	11.54	8.06	44.23	60.34
G =	3.01	5.30	3.85	16.13	9.62	10.34
T =	3.01	9.09	11.54	20.97	12.50	7.76
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	13.86	16.67	48.72	40.32	26.92	6.90
SA =	3.61	4.55	2.56	0.00	0.00	0.00
W =	0.00	0.00	11.54	8.06	0.00	0.00
I =	5.42	4.55	5.13	4.84	5.77	12.93
B =	1.20	0.00	5.13	1.61	0.96	1.72
BA =	0.00	0.00	0.00	0.00	0.00	0.00



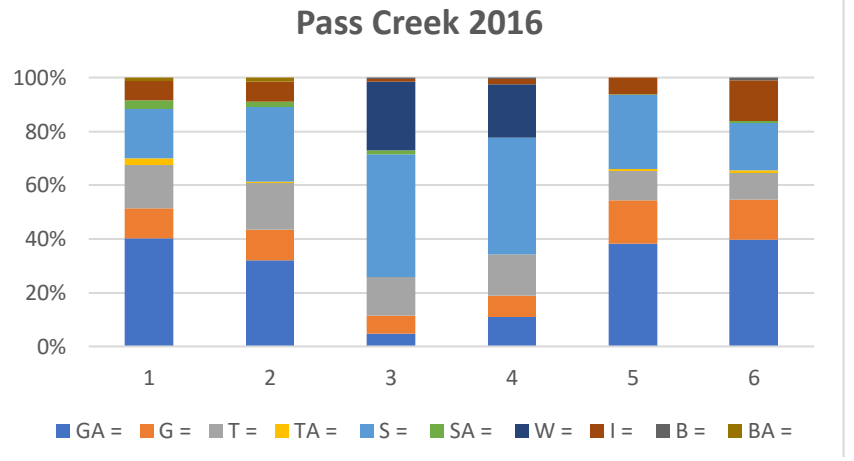
FLUOR CREEK 2016 PERCENTAGES						
GA =	56.86	41.38	5.88	22.22	54.84	73.11
G =	15.69	17.24	11.76	8.33	9.68	8.40
T =	10.78	12.07	26.47	19.44	9.68	8.40
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	8.82	12.07	38.24	41.67	17.74	5.88
SA =	0.00	1.72	2.94	0.00	1.61	1.68
W =	0.00	0.00	5.88	5.56	0.00	0.00
I =	7.84	15.52	8.82	2.78	6.45	2.52
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	0.00	0.00	0.00	0.00	0.00	0.00



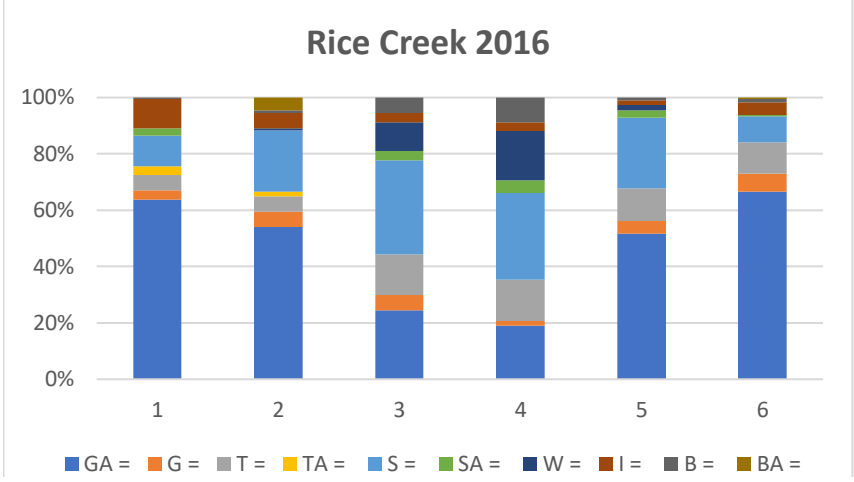
MARSTERS CREEK 2016 PERCENTAGES						
GA =	20.00	8.96	10.56	0.74	10.67	5.26
G =	2.86	0.00	0.70	0.00	1.33	7.89
T =	51.43	70.15	71.13	78.68	56.00	36.84
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	5.71	5.97	4.23	5.88	12.00	7.89
SA =	2.86	5.97	4.93	6.62	4.00	0.00
W =	0.00	0.00	3.52	3.68	0.00	0.00
I =	5.71	1.49	0.70	0.00	16.00	42.11
B =	0.00	0.00	2.11	2.94	0.00	0.00
BA =	11.43	7.46	2.11	1.47	0.00	0.00



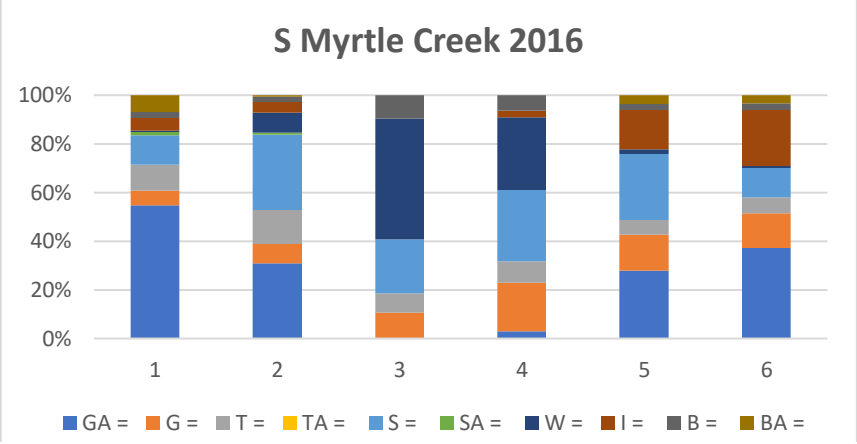
PASS CREEK 2016 PERCENTAGES						
GA =	40.16	32.08	4.66	10.97	38.22	39.66
G =	11.24	11.32	6.74	8.02	16.22	14.92
T =	16.06	17.45	14.51	15.19	10.81	9.83
TA =	2.41	0.47	0.00	0.00	0.77	1.02
S =	18.47	27.83	45.60	43.46	27.41	17.63
SA =	3.21	1.89	1.55	0.00	0.39	0.68
W =	0.00	0.00	25.39	19.83	0.00	0.00
I =	7.23	7.55	1.04	2.11	6.18	15.25
B =	0.00	0.00	0.52	0.42	0.00	1.02
BA =	1.20	1.42	0.00	0.00	0.00	0.00



RICE CREEK 2016 PERCENTAGES						
GA =	63.78	54.05	24.44	19.12	51.79	66.67
G =	3.24	5.41	5.56	1.47	4.46	6.21
T =	5.41	5.41	14.44	14.71	11.61	11.30
TA =	3.24	1.80	0.00	0.00	0.00	0.00
S =	10.81	21.62	33.33	30.88	25.00	9.04
SA =	2.70	0.00	3.33	4.41	2.68	0.56
W =	0.00	0.90	10.00	17.65	1.79	0.00
I =	10.27	5.41	3.33	2.94	1.79	4.52
B =	0.54	0.90	5.56	8.82	0.89	1.13
BA =	0.00	4.50	0.00	0.00	0.00	0.56

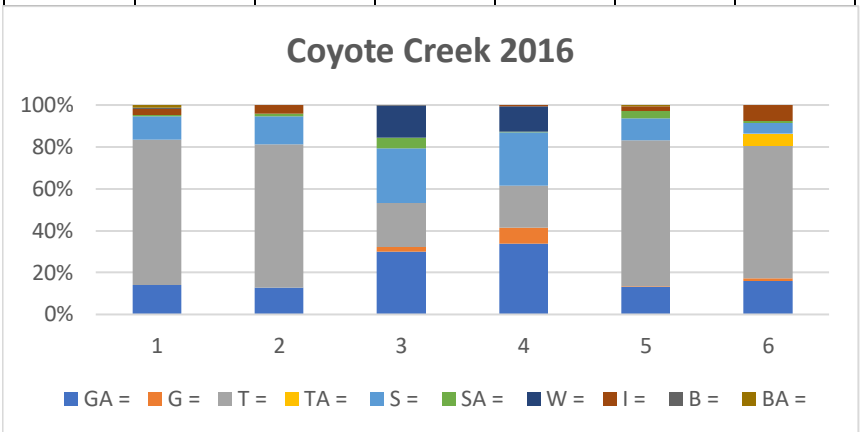


S MYRTLE CREEK 2016 PERCENTAGES						
GA =	54.74	30.99	0.00	2.87	27.78	37.23
G =	6.03	7.75	10.57	20.11	14.81	14.29
T =	10.78	14.08	8.13	8.62	6.17	6.49
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	12.07	30.99	21.95	29.31	27.16	12.12
SA =	1.29	0.70	0.00	0.00	0.00	0.00
W =	0.43	8.45	49.59	29.89	1.85	0.87
I =	5.17	4.23	0.00	2.87	16.05	22.94
B =	2.59	2.11	9.76	6.32	2.47	2.60
BA =	6.90	0.70	0.00	0.00	3.70	3.46

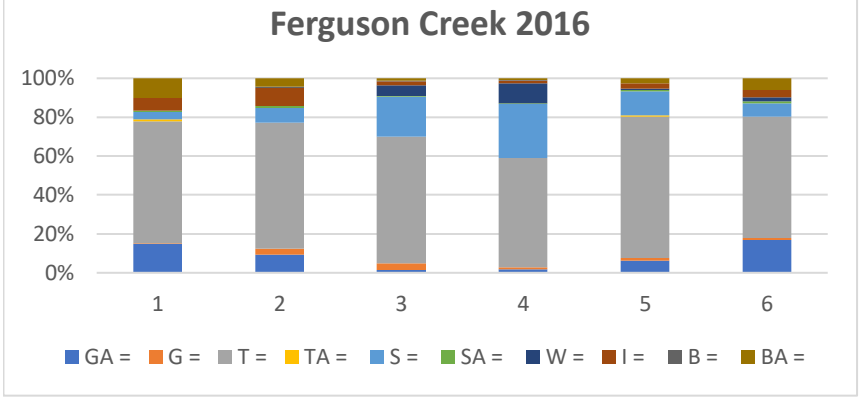


UPPER WILLAMETTE:

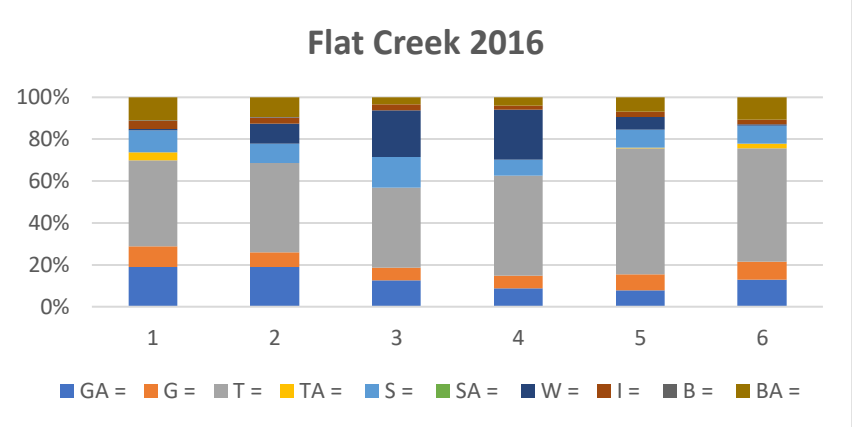
COYOTE CREEK 2016 PERCENTAGES						
GA =	14.11	12.94	30.04	33.66	13.00	16.09
G =	0.00	0.00	2.15	7.80	0.50	1.15
T =	69.33	68.24	21.03	20.00	69.50	63.22
TA =	0.00	0.00	0.00	0.00	0.00	5.75
S =	11.04	13.53	26.18	25.37	10.50	5.17
SA =	0.61	1.18	5.15	0.49	3.50	1.15
W =	0.00	0.00	15.02	12.20	0.00	0.00
I =	3.07	4.12	0.00	0.49	2.50	7.47
B =	0.61	0.00	0.43	0.00	0.00	0.00
BA =	1.23	0.00	0.00	0.00	0.50	0.00



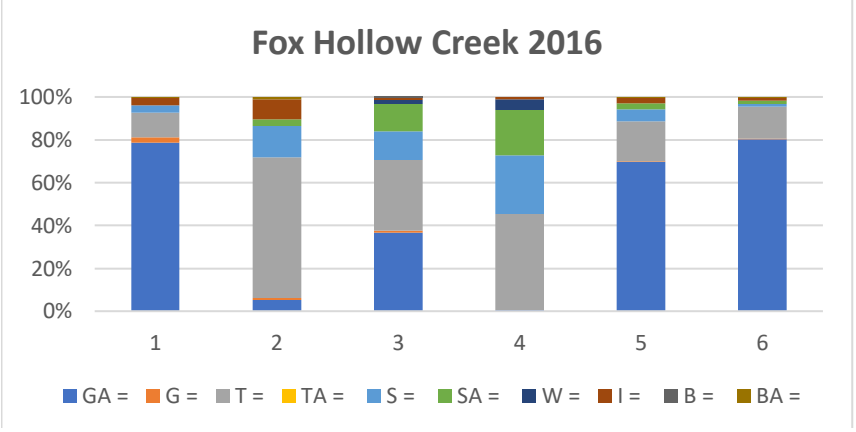
FERGUSON CREEK 2016 PERCENTAGES						
GA =	14.65	9.29	1.45	1.61	6.12	16.83
G =	0.64	3.28	3.27	1.29	1.36	0.99
T =	62.42	64.48	65.09	56.27	72.79	62.38
TA =	1.27	0.00	0.00	0.00	0.68	0.00
S =	3.82	7.65	20.73	27.65	12.24	6.93
SA =	0.64	1.09	0.36	0.32	0.68	0.99
W =	0.00	0.00	5.45	10.29	0.68	1.98
I =	6.37	9.29	2.18	1.29	2.72	3.96
B =	0.00	0.55	0.36	0.32	0.00	0.00
BA =	10.19	4.37	1.09	0.96	2.72	5.94



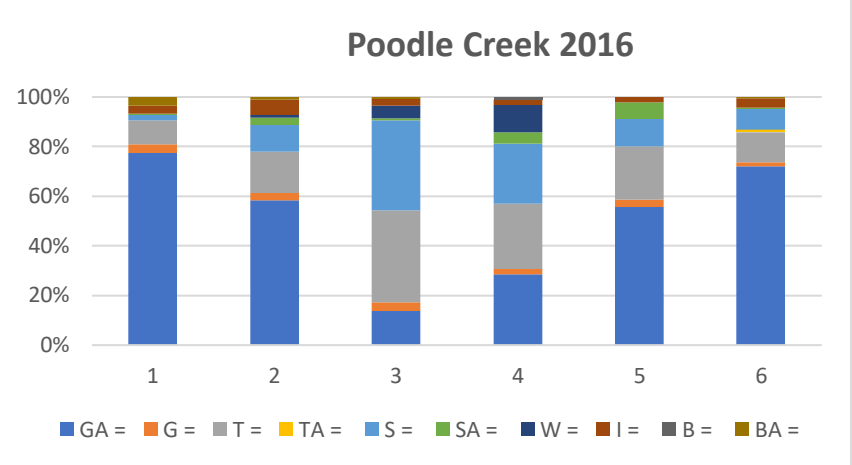
FLAT CREEK 2016 PERCENTAGES						
GA =	19.03	18.89	12.50	8.84	7.97	12.86
G =	9.72	7.04	6.08	6.12	7.61	8.71
T =	41.30	42.59	38.18	47.62	60.14	53.94
TA =	3.64	0.00	0.00	0.00	0.36	2.49
S =	10.53	9.26	14.86	7.48	8.33	8.30
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.81	9.63	22.30	24.15	6.16	0.83
I =	3.64	2.96	2.70	1.70	2.54	2.07
B =	0.40	0.37	0.00	0.00	0.00	0.00
BA =	10.93	9.26	3.38	4.08	6.88	10.79



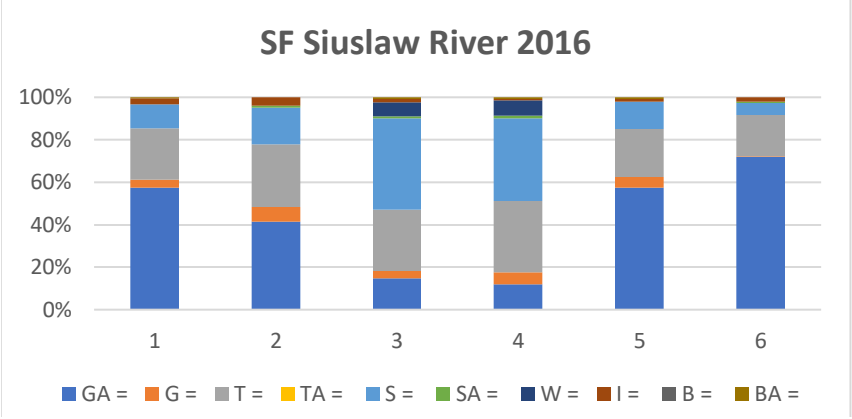
FOX HOLLOW CREEK 2016 PERCENTAGES						
GA =	78.60	5.21	36.75	0.51	69.55	80.07
G =	2.46	1.04	0.71	0.00	0.35	0.36
T =	11.58	65.63	33.22	44.95	18.69	14.95
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	3.51	14.58	13.43	27.27	5.54	1.42
SA =	0.00	3.13	12.72	21.21	2.77	1.42
W =	0.00	0.00	1.77	5.05	0.00	0.00
I =	3.51	9.38	1.06	1.01	2.77	1.42
B =	0.00	0.00	0.35	0.00	0.00	0.00
BA =	0.35	1.04	0.00	0.00	0.35	0.36



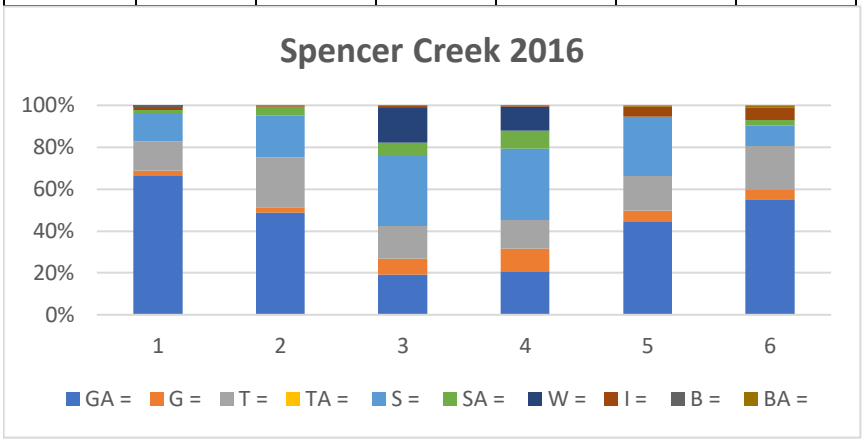
POODLE CREEK 2016 PERCENTAGES						
GA =	57.38	41.30	14.88	12.06	57.53	71.79
G =	3.83	7.07	3.31	5.67	4.79	0.51
T =	24.04	29.35	28.93	33.33	22.60	19.49
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	11.48	17.39	42.98	39.01	13.01	5.64
SA =	0.00	1.09	0.83	1.42	0.00	0.51
W =	0.00	0.00	6.61	7.09	0.00	0.00
I =	2.73	3.80	1.65	0.71	1.37	2.05
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	0.55	0.00	0.83	0.71	0.68	0.00



SF SIUSLAW RIVER 2016 PERCENTAGES						
GA =	77.32	58.33	13.79	28.57	55.80	72.13
G =	3.61	2.98	3.45	2.20	2.76	1.64
T =	9.79	16.67	37.07	26.37	21.55	12.02
TA =	0.00	0.00	0.00	0.00	0.00	1.09
S =	2.06	10.71	36.21	24.18	11.05	8.20
SA =	0.52	2.98	0.86	4.40	6.63	0.55
W =	0.00	1.19	5.17	10.99	0.00	0.00
I =	3.09	5.95	2.59	2.20	2.21	3.83
B =	0.00	0.00	0.00	1.10	0.00	0.00
BA =	3.61	1.19	0.86	0.00	0.00	0.55

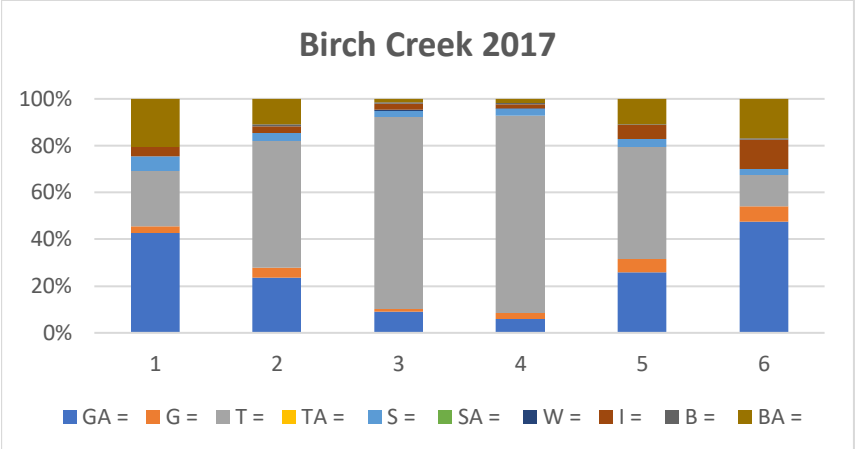


SPENCER CREEK 2016 PERCENTAGES						
GA =	66.21	48.84	19.15	20.75	44.36	55.26
G =	2.76	2.33	7.80	10.69	5.26	4.39
T =	13.79	24.03	15.60	13.84	16.54	21.05
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	13.10	20.16	33.33	33.96	27.82	9.65
SA =	2.07	3.88	6.38	8.81	0.75	2.63
W =	0.00	0.00	16.31	11.32	0.00	0.00
I =	1.38	0.78	1.42	0.63	4.51	6.14
B =	0.69	0.00	0.00	0.00	0.00	0.00
BA =	0.00	0.00	0.00	0.00	0.75	0.88

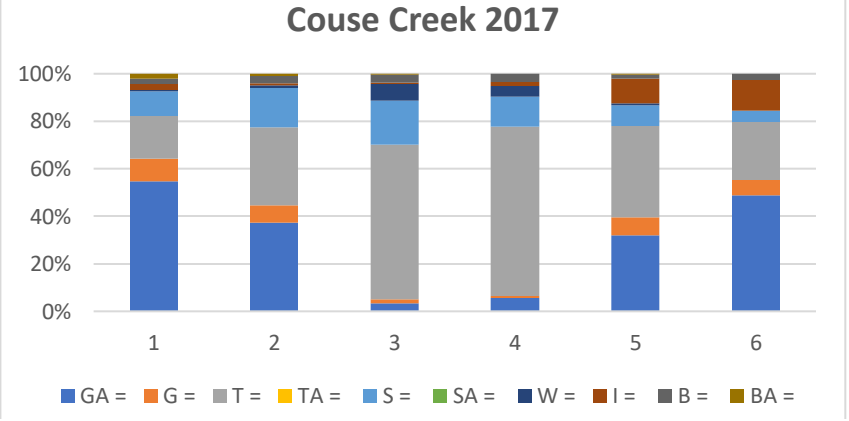


WALLA WALLA:

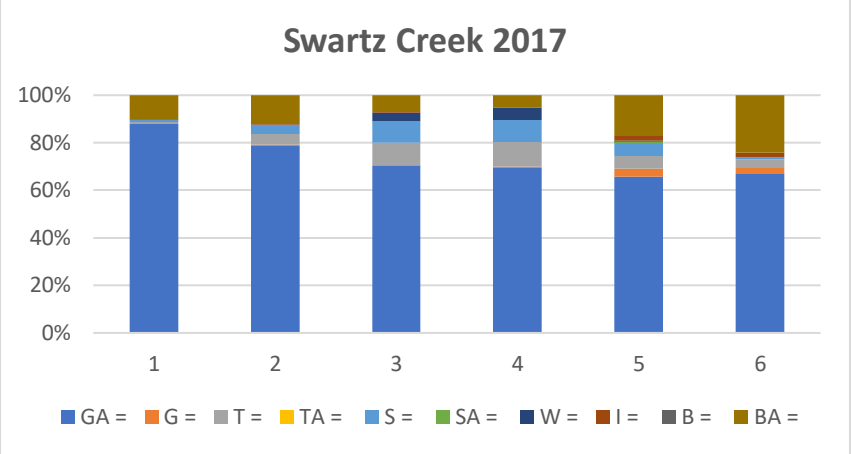
BIRCH CREEK 2017 PERCENTAGES						
GA =	42.71	23.62	9.15	5.94	25.91	47.65
G =	2.78	4.21	1.06	2.64	5.65	6.38
T =	23.61	54.05	82.04	84.16	47.84	13.42
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	6.25	3.56	2.46	2.97	3.32	2.68
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	0.70	0.33	0.00	0.00
I =	4.17	2.91	2.46	1.65	5.98	12.42
B =	0.00	0.65	0.70	0.66	0.33	0.67
BA =	20.49	11.00	1.41	1.65	10.96	16.78



COUSE CREEK 2017 PERCENTAGES						
GA =	54.74	37.23	3.35	5.68	31.90	48.93
G =	9.48	7.36	1.67	0.87	7.76	6.44
T =	18.10	32.90	65.27	71.18	38.36	24.46
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	10.34	16.45	18.41	12.66	8.62	4.72
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.43	1.30	7.11	4.37	0.86	0.00
I =	2.59	0.87	0.42	1.75	10.34	12.88
B =	2.16	3.03	3.35	3.49	1.72	2.58
BA =	2.16	0.87	0.42	0.00	0.43	0.00

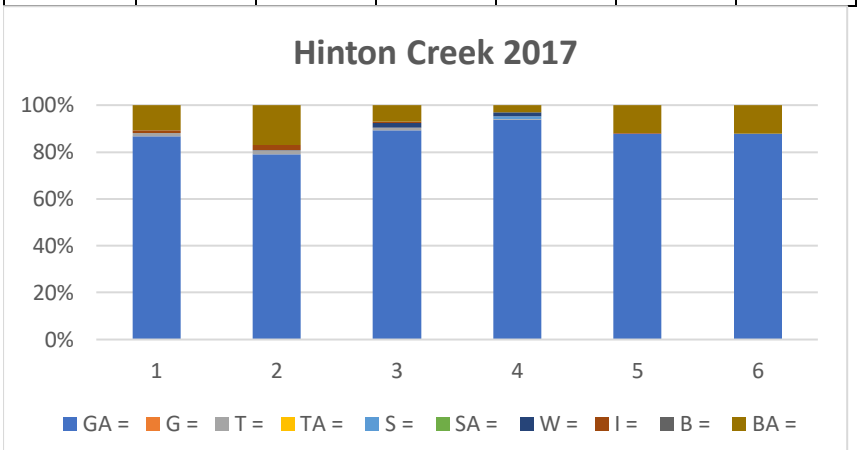


SWARTZ CREEK 2017 PERCENTAGES						
GA =	87.95	78.88	70.49	69.62	65.85	66.80
G =	0.00	0.43	0.00	0.38	3.25	2.49
T =	0.80	4.31	9.43	10.38	5.28	3.73
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.80	3.88	9.02	9.23	5.69	0.83
SA =	0.00	0.00	0.00	0.00	0.41	0.00
W =	0.40	0.00	3.69	5.00	0.41	0.00
I =	0.00	0.43	0.41	0.38	2.03	2.07
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	10.04	12.07	6.97	5.00	17.07	24.07

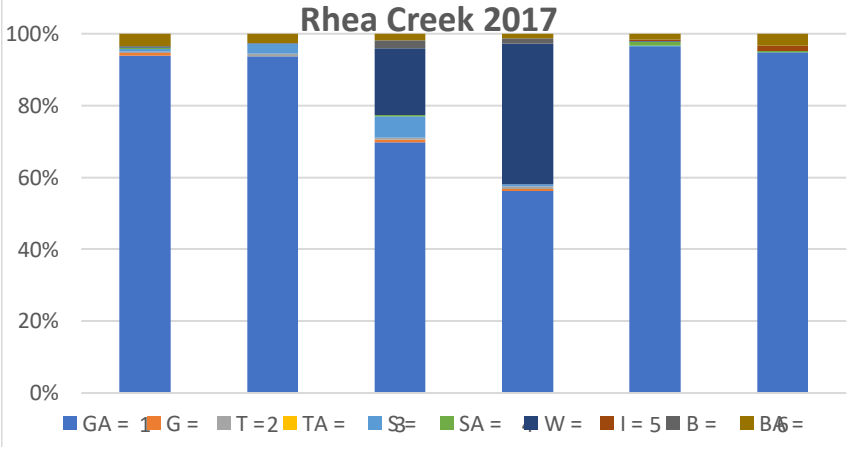


WILLOW CREEK:

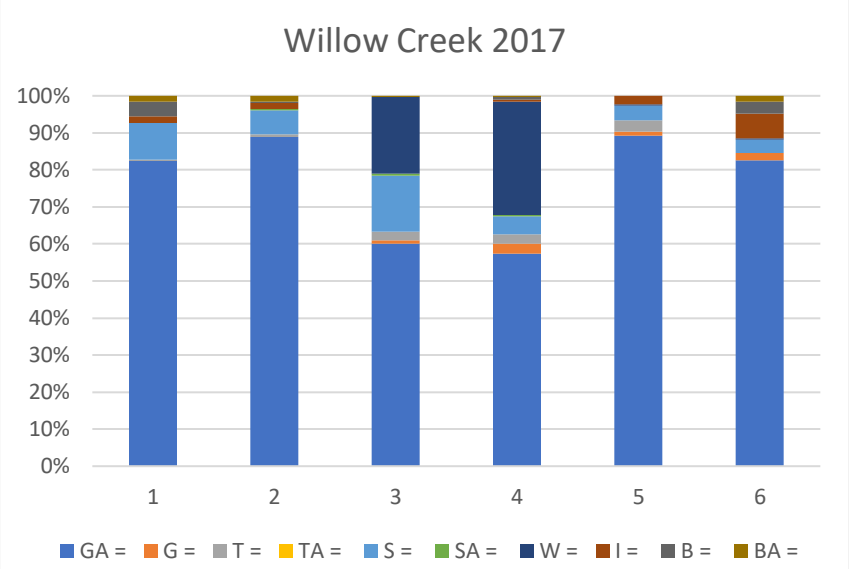
HINTON CREEK 2017 PERCENTAGES						
GA =	86.82	78.99	89.39	93.81	87.88	87.79
G =	0.00	0.00	0.00	0.00	0.00	0.00
T =	1.35	1.45	0.96	0.34	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.00	0.36	0.00	1.03	0.00	0.00
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	0.00	0.00	1.93	1.72	0.00	0.00
I =	1.01	2.17	0.64	0.00	0.34	0.00
B =	0.00	0.00	0.00	0.00	0.00	0.00
BA =	10.81	17.03	7.07	3.09	11.78	12.21



RHEA CREEK 2017 PERCENTAGES						
GA =	93.95	93.75	69.71	56.25	96.39	94.91
G =	0.71	0.00	0.73	0.63	0.00	0.00
T =	0.36	0.63	0.73	0.63	0.00	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.71	2.81	5.84	0.63	0.33	0.00
SA =	0.36	0.00	0.36	0.00	0.98	0.36
W =	0.36	0.00	18.61	39.06	0.33	0.00
I =	0.00	0.00	0.00	0.00	0.33	1.45
B =	0.00	0.31	2.19	1.56	0.00	0.00
BA =	3.56	2.50	1.82	1.25	1.64	3.27

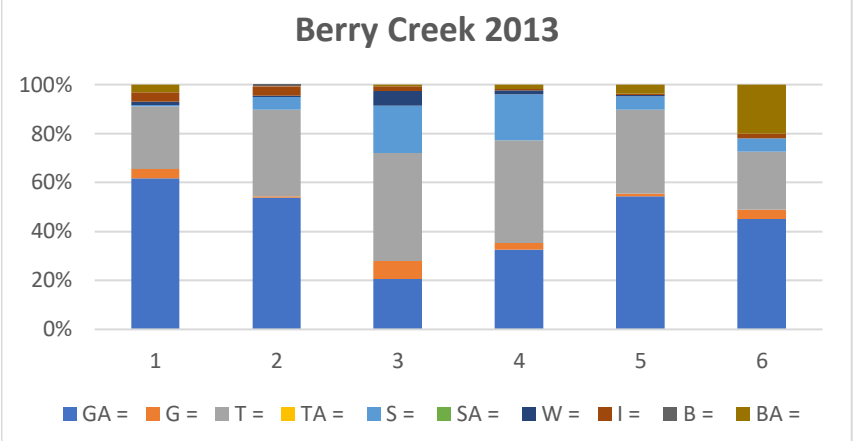


WILLOW CREEK 2017 PERCENTAGES						
GA =	82.42	88.80	60.16	57.46	89.23	82.61
G =	0.00	0.00	0.78	2.61	1.15	1.98
T =	0.39	0.77	2.34	2.61	3.08	0.00
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	9.77	6.56	15.23	4.85	3.85	3.56
SA =	0.00	0.39	0.39	0.37	0.00	0.00
W =	0.00	0.00	20.70	30.60	0.38	0.40
I =	1.95	1.54	0.00	0.37	2.31	6.72
B =	3.91	0.39	0.00	0.75	0.00	3.16
BA =	1.56	1.54	0.39	0.37	0.00	1.58

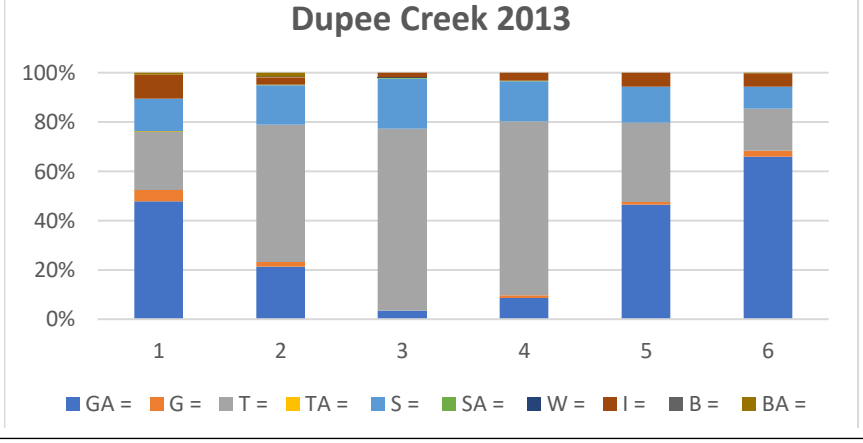


YAMHILL:

BERRY CREEK 2013 PERCENTAGES						
GA =	61.78	53.85	20.50	32.57	54.27	45.12
G =	3.82	0.64	7.45	2.86	1.22	3.66
T =	25.48	35.26	44.10	41.71	34.15	23.78
TA =	0.00	0.00	0.00	0.00	0.00	0.00
S =	0.64	5.13	19.25	18.86	5.49	5.49
SA =	0.00	0.00	0.00	0.00	0.00	0.00
W =	1.27	0.64	6.21	1.71	0.61	0.00
I =	3.82	3.85	1.86	0.57	0.61	1.83
B =	0.00	0.64	0.00	0.00	0.00	0.00
BA =	3.18	0.00	0.62	1.71	3.66	20.12



DUPEE CREEK 2013 PERCENTAGES						
GA =	47.70	21.35	3.56	8.63	46.38	65.94
G =	4.59	1.87	0.00	1.08	1.09	2.54
T =	23.67	55.81	73.67	70.50	32.25	17.03
TA =	0.35	0.00	0.00	0.00	0.00	0.00
S =	13.07	15.73	20.28	16.19	14.49	8.70
SA =	0.00	0.37	0.36	0.36	0.00	0.00
W =	0.00	0.00	0.36	0.00	0.00	0.00
I =	9.89	3.00	1.78	3.24	5.80	5.43
B =	0.00	0.37	0.00	0.00	0.00	0.00
BA =	0.71	1.50	0.00	0.00	0.00	0.36



Appendix C: Basin Monitoring Sites

Bear Creek – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Emigrant Creek	1	-122.650867	42.193128
Emigrant Creek	2	-122.643611	42.190003
Emigrant Creek	3	-122.63495	42.188443
Emigrant Creek	4	-122.630582	42.182283
Emigrant Creek	5	-122.625315	42.17697
Frog Creek	1	-122.613496	42.216686
Frog Creek	2	-122.605148	42.219997
Frog Creek	3	-122.59595	42.222005
Frog Creek	4	-122.588505	42.226033
Frog Creek	5	-122.57944	42.226983
Gaerky Creek	1	-122.690397	42.199816
Gaerky Creek	2	-122.683307	42.204449
Gaerky Creek	3	-122.674582	42.207264
Gaerky Creek	4	-122.666638	42.210463
Gaerky Creek	1	-122.659086	42.215002
Griffin Creek	1	-122.920816	42.360704
Griffin Creek	2	-122.922428	42.353832
Griffin Creek	3	-122.924895	42.346951
Griffin Creek	4	-122.924449	42.339769
Griffin Creek	5	-122.92578	42.332828
Griffin Creek	6	-122.924059	42.326064
Griffin Creek	7	-122.924319	42.319221
Meyer Creek	2	-122.750521	42.234376
Meyer Creek	3	-122.740832	42.234768
Meyer Creek	4	-122.733225	42.238156
Meyer Creek	5	-122.72432	42.240834
Meyer Creek	6	-122.718551	42.24663

Burnt River – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Ayers Creek	1	-117.461757	44.673029
Ayers Creek	2	-117.452481	44.675319
Ayers Creek	3	-117.443221	44.677773
Ayers Creek	4	-117.433476	44.677199
Ayers Creek	5	-117.424352	44.675403
Ayers Creek	6	-117.41461	44.674022
Ayers Creek	7	-117.405918	44.676169
Camp Creek	1	-118.10098	44.456321
Camp Creek	2	-118.104868	44.450892
Camp Creek	3	-118.10922	44.446124
Camp Creek	4	-118.108757	44.439762
Camp Creek	5	-118.109132	44.433508
Camp Creek	6	-118.107871	44.427207
Camp Creek	7	-118.110317	44.422569
Dogtown Creek	1	-117.681341	44.682669
Dogtown Creek	2	-117.679285	44.676255
Dogtown Creek	3	-117.676433	44.669533
Dogtown Creek	4	-117.67779	44.66265
Dogtown Creek	5	-117.678244	44.655529
Durkee Creek	1	-117.457836	44.591566
Durkee Creek	2	-117.456571	44.598435
Durkee Creek	3	-117.454224	44.605195
Durkee Creek	4	-117.450011	44.610896
Durkee Creek	5	-117.442117	44.614904
Durkee Creek	6	-117.435584	44.620139
Durkee Creek	7	-117.42721	44.623803
Durkee Creek	8	-117.423665	44.629453
Durkee Creek	9	-117.418239	44.63547
Job Creek	1	-118.18318	44.484626
Job Creek	2	-118.186792	44.478508
Job Creek	3	-118.187344	44.472017
Job Creek	4	-118.187656	44.465353
Job Creek	5	-118.188212	44.459142
Job Creek	6	-118.19198	44.452968
Job Creek	7	-118.195227	44.446441
Job Creek	8	-118.194661	44.4401
Job Creek	9	-118.19056	44.433634
Lawrence Creek	1	-117.470366	44.579497
Lawrence Creek	2	-117.47089	44.586231
Lawrence Creek	3	-117.473761	44.592937
Lawrence Creek	4	-117.477641	44.599018
Lawrence Creek	5	-117.481457	44.604868
Lawrence Creek	6	-117.484831	44.611423
Lawrence Creek	7	-117.487192	44.618236
Lawrence Creek	8	-117.487069	44.625256

Stream Name	Point	Longitude	Latitude
Lawrence Creek	9	-117.487844	44.632288
Lawrence Creek	10	-117.490968	44.638768
Lawrence Creek	11	-117.494168	44.645065
Powell Creek	1	-117.506621	44.577911
Powell Creek	2	-117.501843	44.571793
Powell Creek	3	-117.499187	44.564899
Powell Creek	4	-117.498348	44.557879
Powell Creek	5	-117.497427	44.551522
Powell Creek	6	-117.498416	44.544513
Powell Creek	7	-117.499434	44.537435
South Fork Burnt River	1	-118.203864	44.484366
South Fork Burnt River	2	-118.208112	44.478382
South Fork Burnt River	3	-118.215512	44.474336
South Fork Burnt River	4	-118.224239	44.471531
South Fork Burnt River	5	-118.230245	44.467208
South Fork Burnt River	6	-118.232444	44.461097
South Fork Burnt River	7	-118.234589	44.455282
South Fork Burnt River	8	-118.237229	44.449011
South Fork Burnt River	9	-118.24252	44.443261
Swayze Creek	1	-117.422046	44.552527
Swayze Creek	2	-117.416194	44.557964
Swayze Creek	3	-117.406444	44.558763
Swayze Creek	4	-117.397097	44.558822
Swayze Creek	5	-117.387351	44.557642
Swayze Creek	6	-117.378277	44.554974
Swayze Creek	7	-117.368729	44.554251

Clackamas – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Clear Creek	1	-122.423296	45.316852
Clear Creek	2	-122.419488	45.312733
Clear Creek	3	-122.424466	45.308168
Clear Creek	4	-122.418591	45.303304
Clear Creek	5	-122.412072	45.29896
Clear Creek	6	-122.409767	45.294468
Clear Creek	7	-122.404547	45.290111
Clear Creek	8	-122.396813	45.285893
Clear Creek	9	-122.390644	45.282245
Coffee Lake Creek	1	-122.780553	45.306293
Coffee Lake Creek	2	-122.782279	45.313089
Coffee Lake Creek	3	-122.786971	45.319082
Coffee Lake Creek	4	-122.788972	45.325827
Coffee Lake Creek	5	-122.7951	45.331476
Currin Creek	1	-122.358951	45.338446
Currin Creek	2	-122.351649	45.333981
Currin Creek	3	-122.348437	45.327658
Currin Creek	4	-122.343991	45.321886
Currin Creek	5	-122.338063	45.316329
North Fork Deep Creek	1	-122.35051	45.43758
North Fork Deep Creek	2	-122.341348	45.437593
North Fork Deep Creek	3	-122.332243	45.435192
North Fork Deep Creek	4	-122.322398	45.433894
North Fork Deep Creek	5	-122.314866	45.429508
North Fork Deep Creek	6	-122.306611	45.427319
North Fork Deep Creek	7	-122.296674	45.425625
Parrott Creek	1	-122.643101	45.282024
Parrott Creek	2	-122.636112	45.279111
Parrott Creek	3	-122.627494	45.278039
Parrott Creek	4	-122.618301	45.280354
Parrott Creek	5	-122.608598	45.280176
Parrott Creek	6	-122.598724	45.278417
Parrott Creek	7	-122.588638	45.279017

Coos/Coquille – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bear Creek	1	-124.34634957300	43.13500275770
Bear Creek	2	-124.34904571800	43.12987916200
Bear Creek	3	-124.34788646600	43.12449250890
Bear Creek	4	-124.34504614800	43.11855461920
Bear Creek	5	-124.34041855600	43.11243363810
Bear Creek	6	-124.33684626600	43.10624951490
Bear Creek	7	-124.33151311400	43.10391792770
Catching Creek	1	-124.14516778000	43.30764417370
Catching Creek	2	-124.15348313400	43.30448065460
Catching Creek	3	-124.15171025700	43.29889559370
Catching Creek	4	-124.15039398600	43.29367640230
Catching Creek	5	-124.14921494100	43.28680922100
Catching Creek	6	-124.15341237900	43.28030176260
Catching Creek	7	-124.15333555200	43.27338413160
Catching Creek	8	-124.15428907700	43.26679446040
Catching Creek	9	-124.15753855100	43.26022571810
MiddleCreek_ParkCreek	1	-124.01705248800	43.20483415820
MiddleCreek_ParkCreek	2	-124.01415804300	43.20836178760
MiddleCreek_ParkCreek	3	-124.01076351800	43.21474341750
MiddleCreek_ParkCreek	4	-124.01221815800	43.21872733040
MiddleCreek_ParkCreek	5	-124.00845729500	43.22247200200
MiddleCreek_ParkCreek	6	-124.00579310100	43.22637701870
MiddleCreek_ParkCreek	7	-124.00416566100	43.23176464540
Palouse Creek	1	-124.18988480500	43.46579912810
Palouse Creek	2	-124.18401614000	43.47026241610
Palouse Creek	3	-124.18310122200	43.47742743710
Palouse Creek	4	-124.17946221000	43.48396608390
Palouse Creek	5	-124.17021757500	43.48265821320
Palouse Creek	6	-124.16129686700	43.48331547640
Palouse Creek	7	-124.15485244700	43.48746716020
Palouse Creek	8	-124.14592685400	43.49022058770
Palouse Creek	9	-124.13753796800	43.49303828140
Palouse Creek	10	-124.13095080000	43.49792800940
Palouse Creek	11	-124.12443935300	43.50244323790
South Fork Coquille River	1	-124.14862148600	43.00669863710
South Fork Coquille River	2	-124.14669212600	42.99963794030
South Fork Coquille River	3	-124.13979334400	42.99635763730
South Fork Coquille River	4	-124.14359554600	42.98972052330
South Fork Coquille River	5	-124.15068962300	42.98654845790
South Fork Coquille River	6	-124.15486593200	42.99255892800
South Fork Coquille River	7	-124.15912922200	42.99632202130
South Fork Coquille River	8	-124.16418404000	42.99016906360
South Fork Coquille River	9	-124.16221619900	42.98419812910
South Fork Coquille River	10	-124.15518342700	42.98079161590
South Fork Coquille River	11	-124.14710669500	42.97853183110

Stream Name	Point	Longitude	Latitude
Twomile Creek	1	-124.41683638000	43.05115682040
Twomile Creek	2	-124.40924502900	43.04981502410
Twomile Creek	3	-124.40358703100	43.04627898130
Twomile Creek	4	-124.39550907900	43.04457543990
Twomile Creek	5	-124.38644255500	43.04248471680
Twomile Creek	6	-124.37826229000	43.04041512470
Twomile Creek	7	-124.36928134800	43.03803986570
Twomile Creek	8	-124.36156582100	43.03496394420
Twomile Creek	9	-124.36261998500	43.02822688140

Crooked River – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Alkali Creek	1	-119.898322	44.109781
Alkali Creek	2	-119.893981	44.104701
Alkali Creek	3	-119.897867	44.098383
Alkali Creek	4	-119.895633	44.091947
Alkali Creek	5	-119.896261	44.085944
Alkali Creek	6	-119.902893	44.082652
Alkali Creek	7	-119.905054	44.076302
Conant Creek	1	-120.540704	44.161033
Conant Creek	2	-120.537888	44.154549
Conant Creek	3	-120.53967	44.14766
Conant Creek	4	-120.542618	44.141168
Conant Creek	5	-120.54312	44.134101
Grindstone Creek	1	-119.833309	44.003542
Grindstone Creek	2	-119.82855	43.998436
Grindstone Creek	3	-119.821863	43.993726
Grindstone Creek	4	-119.816372	43.988515
Grindstone Creek	5	-119.808274	43.98553
Grindstone Creek	6	-119.803728	43.980132
Grindstone Creek	7	-119.797854	43.975004
Grindstone Creek	8	-119.789272	43.972141
Grindstone Creek	9	-119.783691	43.967181
Lytle Creek	1	-120.935077	44.37529
Lytle Creek	2	-120.929888	44.380949
Lytle Creek	3	-120.924294	44.386737
Lytle Creek	4	-120.918128	44.391807
Lytle Creek	5	-120.914853	44.398321
Lytle Creek	6	-120.910691	44.404628
Lytle Creek	7	-120.904605	44.409938
Ochoco Creek	1	-120.78571	44.297287
Ochoco Creek	2	-120.77621	44.298992
Ochoco Creek	3	-120.768274	44.300811
Ochoco Creek	4	-120.760561	44.29971
Ochoco Creek	5	-120.751376	44.300881
Ochoco Creek	6	-120.742153	44.302582
Ochoco Creek	7	-120.73319	44.300358
Paulina Creek	1	-119.980213	44.167211
Paulina Creek	2	-119.987255	44.171454
Paulina Creek	3	-119.990179	44.177595
Paulina Creek	4	-119.989983	44.184404
Paulina Creek	5	-119.993408	44.19069
Paulina Creek	6	-119.995518	44.197693
Paulina Creek	7	-119.997654	44.204541
Sheep Rock Creek	1	-120.29934	44.14513
Sheep Rock Creek	2	-120.29053	44.14845
Sheep Rock Creek	3	-120.28175	44.15132

Stream Name	Point	Longitude	Latitude
Sheep Rock Creek	5	-120.267493	44.159142
Sheep Rock Creek	6	-120.26601	44.166215
Sheep Rock Creek	7	-120.265897	44.173237
South Fork Beaver Creek	1	-119.776912	44.173154
South Fork Beaver Creek	2	-119.768743	44.171384
South Fork Beaver Creek	3	-119.759758	44.168826
South Fork Beaver Creek	4	-119.756669	44.164498
South Fork Beaver Creek	5	-119.757148	44.15808
South Fork Beaver Creek	6	-119.754226	44.151815
South Fork Beaver Creek	7	-119.75276	44.145139

Curry – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Elk River	1	-124.484907	42.790505
Elk River	2	-124.478483	42.786137
Elk River	3	-124.476951	42.780976
Elk River	4	-124.467727	42.780661
Elk River	5	-124.471369	42.77554
Elk River	6	-124.463024	42.774528
New River	5	-124.48247	42.942641
New River	4	-124.486267	42.936137
New River	3	-124.490369	42.929606
New River	2	-124.494282	42.922968
New River	1	-124.498483	42.916447

Goose/Summer Lakes – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Augur Creek	1	-120.430604	42.268247
Augur Creek	2	-120.439887	42.269688
Augur Creek	3	-120.447959	42.272718
Augur Creek	4	-120.451768	42.279113
Augur Creek	5	-120.457081	42.284801
Augur Creek	6	-120.461389	42.290953
Augur Creek	7	-120.461111	42.297255
Bauers Creek	1	-120.397224	42.285496
Bauers Creek	2	-120.399719	42.29127
Bauers Creek	3	-120.404609	42.297309
Bauers Creek	4	-120.405362	42.304269
Bauers Creek	5	-120.406363	42.311398
Bauers Creek	6	-120.408217	42.318416
Bauers Creek	7	-120.405369	42.324115
Bridge Creek	1	-121.094616	43.119212
Bridge Creek	2	-121.101374	43.114694
Bridge Creek	3	-121.108723	43.111069
Bridge Creek	4	-121.117643	43.112368
Bridge Creek	5	-121.125797	43.110833
Bridge Creek	6	-121.133488	43.107088
Bridge Creek	7	-121.140133	43.10259
Bridge Creek	8	-121.145821	43.096934
Bridge Creek	9	-121.152801	43.092346
Drake Creek	1	-120.038443	42.273161
Drake Creek	2	-120.044262	42.278396
Drake Creek	3	-120.052621	42.279986
Drake Creek	4	-120.059513	42.283731
Drake Creek	5	-120.068235	42.285802
Drake Creek	6	-120.077039	42.288275
Drake Creek	7	-120.080888	42.294624
Drake Creek	8	-120.083373	42.301527
Drake Creek	9	-120.089502	42.306675
Drews Creek	1	-120.499007	42.082616
Drews Creek	2	-120.50471	42.085782
Drews Creek	3	-120.510422	42.089236
Drews Creek	4	-120.517433	42.088593
Drews Creek	5	-120.524155	42.092527
Drews Creek	6	-120.529375	42.093751
Drews Creek	7	-120.534883	42.095422
Drews Creek	8	-120.542332	42.093581
Drews Creek	9	-120.547626	42.096306
Drews Creek	10	-120.551742	42.100737
Drews Creek	11	-120.550628	42.106367
Green Creek	1	-120.387443	42.46445
Green Creek	2	-120.394016	42.469224

Stream Name	Point	Longitude	Latitude
Green Creek	3	-120.400882	42.47383
Green Creek	4	-120.40526	42.479282
Green Creek	5	-120.414128	42.480817
Green Creek	6	-120.421415	42.476459
Green Creek	7	-120.429555	42.479293
Honey Creek	1	-120.05962	42.440531
Honey Creek	2	-120.069246	42.439382
Honey Creek	3	-120.078461	42.438917
Honey Creek	4	-120.086663	42.43739
Honey Creek	5	-120.094947	42.434769
Honey Creek	6	-120.099688	42.428689
Honey Creek	7	-120.10597	42.424128
Honey Creek	8	-120.114258	42.421374
Honey Creek	9	-120.123412	42.420645
McDowell Creek	1	-120.025804	42.383235
McDowell Creek	2	-120.034118	42.381571
McDowell Creek	3	-120.042922	42.382128
McDowell Creek	4	-120.051936	42.383443
McDowell Creek	5	-120.059219	42.379061
McDowell Creek	6	-120.067031	42.37531
McDowell Creek	7	-120.074796	42.371354
McDowell Creek	8	-120.082269	42.367404
McDowell Creek	9	-120.08976	42.363139
Moss Creek	1	-120.465754	42.616755
Moss Creek	2	-120.468311	42.610454
Moss Creek	3	-120.472416	42.604948
Moss Creek	4	-120.47822	42.600511
Moss Creek	5	-120.479585	42.594261
Moss Creek	6	-120.47644	42.588545
Moss Creek	7	-120.468902	42.584575
Moss Creek	8	-120.464471	42.578956
Moss Creek	9	-120.463437	42.572641
Peters Creek	1	-120.539036	43.481715
Peters Creek	2	-120.534681	43.48519
Peters Creek	3	-120.526211	43.486042
Peters Creek	4	-120.519596	43.490588
Peters Creek	5	-120.511329	43.493056
Twentymile Creek	1	-119.906191	42.077459
Twentymile Creek	2	-119.898405	42.081685
Twentymile Creek	3	-119.892606	42.08733
Twentymile Creek	4	-119.890102	42.094169
Twentymile Creek	5	-119.88684	42.1004
Twentymile Creek	6	-119.88079	42.095523
Twentymile Creek	7	-119.87243	42.099013
Twentymile Creek	8	-119.869453	42.105753
Twentymile Creek	9	-119.867354	42.112809
Twentymile Creek	10	-119.864843	42.119782
Twentymile Creek	11	-119.864302	42.126992

Harney – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Fields Creek	2	-118.677327	42.263587
Fields Creek	3	-118.685008	42.259804
Fields Creek	4	-118.693998	42.258255
Fields Creek	5	-118.701527	42.254725
Fields Creek	6	-118.709269	42.250858
Fields Creek	7	-118.7173	42.247619
Fields Creek	8	-118.726759	42.247695
Fields Creek	9	-118.73588	42.249605
Fields Creek	10	-118.743217	42.253578
Home Creek	1	-118.976879	42.549818
Home Creek	2	-118.969467	42.54541
Home Creek	3	-118.959674	42.54537
Home Creek	4	-118.951218	42.546923
Home Creek	5	-118.946796	42.55133
Home Creek	6	-118.939685	42.555517
Home Creek	7	-118.930122	42.555943
Home Creek	8	-118.920714	42.554801
Home Creek	9	-118.911433	42.555713
Home Creek	10	-118.902292	42.556413
Home Creek	11	-118.893096	42.555565
Kiger Creek	1	-118.712938	43.032822
Kiger Creek	2	-118.708116	43.02709
Kiger Creek	3	-118.702423	43.022739
Kiger Creek	4	-118.694911	43.022748
Kiger Creek	5	-118.68758	43.018409
Kiger Creek	6	-118.681337	43.013782
Kiger Creek	7	-118.67647	43.007731
Kiger Creek	8	-118.668634	43.004317
Kiger Creek	9	-118.661293	43.000485
Kiger Creek	10	-118.652112	42.998547
Kiger Creek	11	-118.644523	42.994385
Poison Creek	1	-118.998275	43.615453
Poison Creek	2	-118.999833	43.620748
Poison Creek	3	-118.998295	43.627324
Poison Creek	4	-118.997545	43.633879
Poison Creek	5	-118.99875	43.640645
Poison Creek	6	-119.000381	43.647371
Poison Creek	7	-118.997901	43.654267
Poison Creek	8	-118.998405	43.660918
Poison Creek	9	-119.000267	43.667562
Poison Creek	10	-118.99915	43.674709
Poison Creek	11	-119.001617	43.68124
Rattlesnake Creek	1	-118.813795	43.630796
Rattlesnake Creek	2	-118.814544	43.637121
Rattlesnake Creek	3	-118.813007	43.643839

Stream Name	Point	Longitude	Latitude
Rattlesnake Creek	4	-118.812081	43.650212
Rattlesnake Creek	5	-118.812685	43.656629
Rattlesnake Creek	6	-118.810191	43.662853
Rattlesnake Creek	7	-118.806529	43.668641
Riddle Creek	6	-118.615949	43.120946
Riddle Creek	7	-118.608276	43.117077
Riddle Creek	8	-118.609763	43.110863
Riddle Creek	9	-118.611711	43.104437
Riddle Creek	10	-118.609974	43.09852
Riddle Creek	11	-118.603897	43.093652
Riddle Creek	12	-118.596978	43.088662
Riddle Creek	13	-118.59069	43.083633
Riddle Creek	14	-118.583553	43.079464
Riddle Creek	15	-118.575337	43.076462
Riddle Creek	16	-118.566531	43.074478
Silver Creek	53	-119.606728	43.574272
Silver Creek	54	-119.614528	43.577869
Silver Creek	55	-119.621656	43.582248
Silver Creek	56	-119.627734	43.587047
Silver Creek	57	-119.629867	43.593198
Silver Creek	58	-119.634897	43.598296
Silver Creek	59	-119.637482	43.604372
Silver Creek	60	-119.640459	43.61071
Silver Creek	61	-119.644629	43.616371
Silver Creek	62	-119.646692	43.622548
Silver Creek	63	-119.648773	43.62858
Silver Creek	64	-119.653898	43.63399
Silver Creek	65	-119.654991	43.639516
Wildhorse Creek	11	-118.604244	42.458817
Wildhorse Creek	12	-118.597544	42.463253
Wildhorse Creek	13	-118.596584	42.46998
Wildhorse Creek	14	-118.591285	42.475697
Wildhorse Creek	15	-118.588495	42.481638
Wildhorse Creek	16	-118.591839	42.488042
Wildhorse Creek	17	-118.59179	42.494834
Wildhorse Creek	18	-118.590189	42.501006
Wildhorse Creek	19	-118.591386	42.507992
Wildhorse Creek	20	-118.594936	42.514509
Wilson Creek	2	-119.62988	43.333315
Wilson Creek	3	-119.638118	43.329401
Wilson Creek	4	-119.645441	43.325129
Wilson Creek	5	-119.642846	43.320898
Wilson Creek	6	-119.643228	43.315518
Wilson Creek	7	-119.648649	43.30961
Wilson Creek	8	-119.65232	43.303465
Wilson Creek	9	-119.649281	43.297663
Wilson Creek	10	-119.65373	43.294949

Stream Name	Point	Longitude	Latitude
Wilson Creek	11	-119.662349	43.295908
Wilson Creek	12	-119.669915	43.294303

Hood River – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
East Fork Hood River		-121.627234	45.57527
East Fork Hood River	2	-121.62194	45.570455
East Fork Hood River	3	-121.612368	45.569387
East Fork Hood River	4	-121.60395	45.565836
East Fork Hood River	5	-121.594593	45.564978
East Fork Hood River	6	-121.587993	45.560547
East Fork Hood River	7	-121.585828	45.554
East Fork Hood River	8	-121.582833	45.547539
East Fork Hood River	9	-121.581597	45.540626
East Fork Hood River	10	-121.577722	45.534895
East Fork Hood River	11	-121.577441	45.528387
Griswell Creek	1	-121.578129	45.528546
Griswell Creek	2	-121.577509	45.521473
Griswell Creek	3	-121.575682	45.514399
Griswell Creek	4	-121.572483	45.507635
Griswell Creek	5	-121.569247	45.500836
Griswell Creek	6	-121.568631	45.494367
Griswell Creek	7	-121.572005	45.487734
Griswell Creek	8	-121.577632	45.481754
Griswell Creek	9	-121.585456	45.477559
Griswell Creek	10	-121.58871	45.470678
Indian Creek	1	-121.51035	45.700945
Indian Creek	2	-121.519943	45.699044
Indian Creek	3	-121.527444	45.694657
Indian Creek	4	-121.535009	45.690832
Indian Creek	5	-121.543769	45.68864
Indian Creek	6	-121.548774	45.6831
Indian Creek	7	-121.557476	45.681109
Indian Creek	8	-121.564158	45.676602
Indian Creek	9	-121.571489	45.672886
Indian Creek	10	-121.575931	45.667551
Indian Creek	11	-121.584565	45.663963
Indian Creek	12	-121.589491	45.657744
Neal Creek	1	-121.525708	45.664006
Neal Creek	2	-121.523029	45.657918
Neal Creek	3	-121.51978	45.653354
Neal Creek	4	-121.515209	45.648313
Neal Creek	5	-121.513838	45.641335
Neal Creek	6	-121.511505	45.634604
Neal Creek	7	-121.509247	45.627752
Neal Creek	8	-121.510477	45.620915
Neal Creek	9	-121.512015	45.613934
Neal Creek	10	-121.50662	45.608193
Neal Creek	11	-121.502739	45.602041

Stream Name	Point	Longitude	Latitude
Neal Creek	12	-121.499492	45.595398
Neal Creek	13	-121.496054	45.589053
Odell Creek	1	-121.539762	45.6564
Odell Creek	2	-121.543519	45.650291
Odell Creek	3	-121.545452	45.644372
Odell Creek	4	-121.544519	45.637764
Odell Creek	5	-121.546259	45.631963
Odell Creek	6	-121.554408	45.628925
Odell Creek	7	-121.559722	45.623856
Odell Creek	8	-121.558535	45.617072
Odell Creek	9	-121.559242	45.610695
Odell Creek	10	-121.562926	45.604039
Odell Creek	11	-121.564688	45.597742
Odell Creek	12	-121.570874	45.592436
Odell Creek	13	-121.577937	45.587264
Odell Creek	14	-121.58718	45.582958

Inland Rogue – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Constance Creek	1	-122.861722	42.482959
Constance Creek	2	-122.865271	42.489357
Constance Creek	3	-122.866165	42.49564
Constance Creek	4	-122.874521	42.498523
Constance Creek	5	-122.879409	42.504592
Constance Creek	6	-122.886799	42.508452
Constance Creek	7	-122.891835	42.513612
Constance Creek	8	-122.887975	42.519673
Constance Creek	9	-122.887531	42.525674
Evans Creek	1	-123.173905	42.506216
Evans Creek	2	-123.172745	42.513298
Evans Creek	3	-123.171352	42.520423
Evans Creek	4	-123.167475	42.526097
Evans Creek	5	-123.162189	42.53159
Evans Creek	6	-123.155347	42.536433
Evans Creek	7	-123.147622	42.539355
Evans Creek	8	-123.139638	42.541446
Evans Creek	9	-123.132007	42.545892
Illinois River	1	-123.653355	42.227188
Illinois River	2	-123.653998	42.219981
Illinois River	3	-123.656716	42.213049
Illinois River	4	-123.661198	42.207003
Illinois River	5	-123.659628	42.200174
Illinois River	6	-123.658393	42.19304
Illinois River	7	-123.655067	42.186297
Illinois River	8	-123.658628	42.180093
Illinois River	9	-123.663791	42.175376
Jumpoff Joe Creek	1	-123.421104	42.527092
Jumpoff Joe Creek	2	-123.413641	42.530717
Jumpoff Joe Creek	3	-123.407586	42.535821
Jumpoff Joe Creek	4	-123.399374	42.539148
Jumpoff Joe Creek	5	-123.391253	42.54126
Jumpoff Joe Creek	6	-123.38521	42.546861
Jumpoff Joe Creek	7	-123.380826	42.552912
Jumpoff Joe Creek	8	-123.374082	42.556929
Jumpoff Joe Creek	9	-123.368716	42.562465
Little Applelgate River	1	-123.001667	42.173877
Little Applelgate River	2	-123.00006	42.167813
Little Applelgate River	3	-122.993293	42.163308
Little Applelgate River	4	-122.984398	42.160633
Little Applelgate River	5	-122.975829	42.157432
Little Applelgate River	6	-122.966873	42.154717
Little Applelgate River	7	-122.959195	42.151097
Little Applelgate River	8	-122.952073	42.146994
Little Applelgate River	9	-122.94318	42.149013

Stream Name	Point	Longitude	Latitude
Reese Creek	1	-122.835676	42.532322
Reese Creek	2	-122.826744	42.533006
Reese Creek	3	-122.818315	42.535206
Reese Creek	4	-122.809748	42.537637
Reese Creek	5	-122.800424	42.538583
Reese Creek	6	-122.79209	42.540787
Sams Creek	1	-123.006222	42.474731
Sams Creek	2	-122.99923	42.478942
Sams Creek	3	-122.994251	42.485067
Sams Creek	4	-122.994057	42.491173
Sams Creek	5	-122.99701	42.497963
Sams Creek	6	-122.999815	42.504421
Sams Creek	7	-123.000438	42.511493
Slagle Creek	1	-123.24303	42.308821
Slagle Creek	2	-123.236035	42.304342
Slagle Creek	3	-123.232548	42.297604
Slagle Creek	4	-123.224359	42.297445
Slagle Creek	5	-123.216153	42.300521
Slagle Creek	6	-123.207365	42.302458
Slagle Creek	7	-123.198051	42.300832
Slagle Creek	8	-123.188836	42.299335
Thompson Creek	1	-123.168709	42.254917
Thompson Creek	2	-123.167432	42.248541
Thompson Creek	3	-123.174008	42.243384
Thompson Creek	4	-123.179484	42.237941
Thompson Creek	5	-123.18571	42.232611
Thompson Creek	6	-123.191538	42.227057
Thompson Creek	7	-123.195938	42.220795
Thompson Creek	8	-123.199481	42.214191
Thompson Creek	9	-123.200976	42.208074
Whetstone Creek	1	-122.938913	42.435811
Whetstone Creek	2	-122.929926	42.433868
Whetstone Creek	3	-122.920657	42.43167
Whetstone Creek	4	-122.912279	42.429051
Whetstone Creek	5	-122.90364	42.425887
Whetstone Creek	6	-122.895754	42.42201
Whetstone Creek	7	-122.887291	42.42043
Whetstone Creek	8	-122.87832	42.418612
Whetstone Creek	9	-122.870021	42.415457

John Day – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Camas Creek	1	45.15395896880	-118.86743693900
Camas Creek	2	45.15252438900	-118.87716878800
Camas Creek	3	45.15177132380	-118.88691043900
Camas Creek	4	45.14829472180	-118.89564769500
Camas Creek	5	45.14498161860	-118.90471111900
Camas Creek	6	45.14178018030	-118.91387159300
Camas Creek	7	45.13784901010	-118.92223934400
Camas Creek	8	45.13277231330	-118.92951097900
Fox Creek	1	44.62207848100	-119.06337156400
Fox Creek	2	44.62487547270	-119.07257025900
Fox Creek	3	44.62842260710	-119.08066724700
Fox Creek	4	44.63068159100	-119.09002788400
Fox Creek	5	44.62920781870	-119.09960573300
Fox Creek	6	44.62784571950	-119.10853460200
Fox Creek	7	44.62719665050	-119.11815420400
Long Creek	1	44.72393456700	-119.08861501800
Long Creek	2	44.72587896290	-119.09818228300
Long Creek	3	44.73070013820	-119.10499494200
Long Creek	4	44.73638980930	-119.11049634700
Long Creek	5	44.74215991930	-119.11618408100
Long Creek	6	44.74739241370	-119.12250333800
Long Creek	7	44.75338209190	-119.12772010700
Long Creek	8	44.75961816950	-119.12935785000
Long Creek	9	44.76549225260	-119.12973385100
Long Creek	10	44.77108228410	-119.13485151900
Long Creek	11	44.77619452480	-119.13966345700
Long Creek	12	44.78071610760	-119.14705918100
Rock Creek	1	44.43397691040	-119.81841432700
Rock Creek	2	44.44054689070	-119.81891975800
Rock Creek	3	44.44510694870	-119.81145806000
Rock Creek	4	44.45082013440	-119.80659148500
Rock Creek	5	44.45742102840	-119.80409394300
Rock Creek	6	44.46420299650	-119.80589662200
Rock Creek	7	44.47093362470	-119.80862821200
Rock Creek	8	44.47764443990	-119.80891062300
Rock Creek	9	44.48324672090	-119.80401734900
Rock Creek	10	44.48880284890	-119.79881005200
Rock Creek	11	44.49330599930	-119.79203875300
Rock Creek	12	44.49563634480	-119.78313007800
Strawberry Creek	1	44.38057321590	-118.67057191500
Strawberry Creek	2	44.38731364730	-118.67390551200
Strawberry Creek	3	44.39419272400	-118.67636007900
Strawberry Creek	4	44.40129175380	-118.67670062700
Strawberry Creek	5	44.40824632460	-118.67873870800
Strawberry Creek	6	44.41518659490	-118.67848460200

Stream Name	Point	Longitude	Latitude
Strawberry Creek	8	44.42845387330	-118.68293290700
Strawberry Creek	9	44.43529506610	-118.68416038100
Strawberry Creek	10	44.44176503550	-118.68704484600

Klamath Headwaters – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Fishhole Creek	1	-121.034996	42.40528
Fishhole Creek	2	-121.033631	42.399
Fishhole Creek	3	-121.030986	42.392743
Fishhole Creek	4	-121.03062	42.385709
Fishhole Creek	5	-121.033096	42.37884
Fishhole Creek	6	-121.026805	42.374263
Fishhole Creek	7	-121.022753	42.367992
Fritz Creek	1	-121.094667	42.447011
Fritz Creek	2	-121.086731	42.44865
Fritz Creek	3	-121.077858	42.448525
Fritz Creek	4	-121.068866	42.449447
Fritz Creek	5	-121.062237	42.444973
Fritz Creek	6	-121.0541	42.442117
Fritz Creek	7	-121.044624	42.44382
North Fork Spraque River	1	-121.10765	42.468764
North Fork Spraque River	2	-121.109388	42.474803
North Fork Spraque River	3	-121.107216	42.479116
North Fork Spraque River	4	-121.106083	42.484851
North Fork Spraque River	5	-121.100319	42.488442
North Fork Spraque River	6	-121.094101	42.48359
North Fork Spraque River	7	-121.087009	42.479087
North Fork Spraque River	8	-121.079836	42.479924
North Fork Spraque River	9	-121.071	42.478918
Paradise Creek	1	-121.01297	42.399434
Paradise Creek	2	-121.005594	42.396781
Paradise Creek	3	-120.997189	42.393679
Paradise Creek	4	-120.994035	42.387814
Paradise Creek	5	-120.993597	42.381261
Paradise Creek	6	-120.988997	42.37509
Sevenmile Creek	1	-122.051553	42.646338
Sevenmile Creek	2	-122.056319	42.651647
Sevenmile Creek	3	-122.060688	42.657311
Sevenmile Creek	4	-122.064539	42.662379
Sevenmile Creek	5	-122.071418	42.665807
Sevenmile Creek	6	-122.073588	42.67174
Sevenmile Creek	7	-122.070468	42.675045
Sevenmile Creek	8	-122.067684	42.680259
Sevenmile Creek	9	-122.0714	42.683907
Sycan River	1	-121.293534	42.498948
Sycan River	2	-121.293733	42.50464
Sycan River	3	-121.297027	42.509781
Sycan River	4	-121.301645	42.514138
Sycan River	5	-121.303482	42.518106
Sycan River	6	-121.304867	42.52248
Sycan River	7	-121.30443	42.529492

Stream Name	Point	Longitude	Latitude
Sycan River	8	-121.306316	42.536249
Sycan River	9	-121.306773	42.54301
Whisk Creek	1	-121.353424	42.444697
Whisk Creek	2	-121.346914	42.441396
Whisk Creek	3	-121.342213	42.436254
Whisk Creek	4	-121.344141	42.430839
Whisk Creek	5	-121.343472	42.425794
Whisk Creek	6	-121.341712	42.41956
Whisk Creek	7	-121.342017	42.415303
Whisk Creek	8	-121.345287	42.409281
Whisk Creek	9	-121.35262	42.406424

Lost River – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Fisher Creek	1	-121.436056	42.297422
Fisher Creek	2	-121.433066	42.290921
Fisher Creek	3	-121.429175	42.284399
Fisher Creek	4	-121.42512	42.277922
Fisher Creek	5	-121.419939	42.272169
Fisher Creek	6	-121.416902	42.265664
Fisher Creek	7	-121.411824	42.259853
Lost River	1	-121.320249	42.159445
Lost River	2	-121.32457	42.153003
Lost River	3	-121.325127	42.145891
Lost River	4	-121.317085	42.142742
Lost River	5	-121.309746	42.138314
Lost River	6	-121.300688	42.137333
Lost River	7	-121.294372	42.13326
Lost River	8	-121.290851	42.127318
Lost River	9	-121.2835	42.12309
Lost River	10	-121.27671	42.120036
Lost River	11	-121.272057	42.113986
Lost River	12	-121.263502	42.110901
Lost River	13	-121.256185	42.106687
Rocky Canyon Creek	1	-121.332894	42.204353
Rocky Canyon Creek	2	-121.336324	42.210424
Rocky Canyon Creek	3	-121.337961	42.217065
Rocky Canyon Creek	4	-121.341566	42.223616
Rocky Canyon Creek	5	-121.346423	42.229727
Rocky Canyon Creek	6	-121.350131	42.234912
Rocky Canyon Creek	7	-121.354221	42.240974
Rocky Canyon Creek	8	-121.355426	42.247942
Rocky Canyon Creek	9	-121.357728	42.25485

Lower Deschutes – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bakeoven Creek	1	-121.053537	45.163378
Bakeoven Creek	2	-121.046245	45.161255
Bakeoven Creek	3	-121.037715	45.161271
Bakeoven Creek	4	-121.030651	45.157202
Bakeoven Creek	5	-121.024871	45.15526
Bakeoven Creek	6	-121.016829	45.152145
Bakeoven Creek	7	-121.010493	45.147647
Bakeoven Creek	8	-121.007015	45.147002
Bakeoven Creek	9	-121.000284	45.144804
Bakeoven Creek	10	-120.991238	45.14334
Bakeoven Creek	11	-120.982204	45.141906
Bakeoven Creek	12	-120.974551	45.143953
Booten Creek	1	-121.013056	45.150113
Booten Creek	2	-121.014803	45.143632
Booten Creek	3	-121.011348	45.137368
Booten Creek	4	-121.003841	45.132791
Booten Creek	5	-121.000044	45.126597
Booten Creek	6	-120.999159	45.119988
Booten Creek	7	-120.996169	45.113533
Booten Creek	8	-120.993417	45.106883
Booten Creek	9	-120.99101	45.100002
Booten Creek	10	-120.986212	45.094109
Fifteenmile Creek	1	-121.13745	45.449847
Fifteenmile Creek	2	-121.146405	45.448478
Fifteenmile Creek	3	-121.155476	45.446319
Fifteenmile Creek	4	-121.162616	45.444347
Fifteenmile Creek	5	-121.171865	45.4434
Fifteenmile Creek	6	-121.18052	45.439898
Fifteenmile Creek	7	-121.190363	45.438384
Fifteenmile Creek	8	-121.200435	45.437057
Fifteenmile Creek	9	-121.20999	45.435351
Fifteenmile Creek	10	-121.218711	45.432642
Finnegan Creek	1	-120.869495	45.19887
Finnegan Creek	2	-120.862598	45.203594
Finnegan Creek	3	-120.857181	45.209163
Finnegan Creek	4	-120.856702	45.215576
Finnegan Creek	5	-120.851778	45.221601
Finnegan Creek	6	-120.8461	45.226684
Finnegan Creek	7	-120.840534	45.232236
Finnegan Creek	8	-120.837226	45.238316
Finnegan Creek	8	-120.836806	45.243678
Finnegan Creek	10	-120.832516	45.24903
Finnegan Creek	11	-120.826416	45.252869
Finnegan Creek	12	-120.817703	45.255171
Fivemile Creek	1	-121.101146	45.563245

Stream Name	Point	Longitude	Latitude
Fivemile Creek	2	-121.107053	45.557726
Fivemile Creek	3	-121.113964	45.552625
Fivemile Creek	4	-121.122731	45.549163
Fivemile Creek	5	-121.131301	45.545971
Fivemile Creek	6	-121.137877	45.54109
Fivemile Creek	7	-121.144509	45.536182
Fivemile Creek	8	-121.149974	45.530354
Fivemile Creek	9	-121.157761	45.526071
Fivemile Creek	10	-121.166019	45.522064
Fivemile Creek	11	-121.175798	45.520352
Fivemile Creek	12	-121.185412	45.520911
Fivemile Creek	13	-121.193724	45.517293
Fivemile Creek	14	-121.203611	45.516658
Fivemile Creek	15	-121.212518	45.514026
Larch Creek	1	-121.190207	45.39322
Larch Creek	2	-121.200078	45.393074
Larch Creek	3	-121.20967	45.392613
Larch Creek	4	-121.21457	45.387404
Larch Creek	5	-121.22271	45.383872
Larch Creek	6	-121.230966	45.380659
Larch Creek	7	-121.239823	45.378411
Larch Creek	8	-121.248618	45.375878
Larch Creek	9	-121.257548	45.372691
Larch Creek	10	-121.267068	45.371674
Spanish Hollow Creek	1	-120.73846	45.620878
Spanish Hollow Creek	2	-120.734289	45.614445
Spanish Hollow Creek	3	-120.727283	45.609641
Spanish Hollow Creek	4	-120.718822	45.606554
Spanish Hollow Creek	5	-120.711067	45.602007
Spanish Hollow Creek	6	-120.704699	45.596823
Spanish Hollow Creek	7	-120.699273	45.590933
Spanish Hollow Creek	8	-120.691515	45.586788
Spanish Hollow Creek	9	-120.682902	45.584361
Spanish Hollow Creek	10	-120.673466	45.582682
Spanish Hollow Creek	11	-120.6647	45.582585
Spanish Hollow Creek	12	-120.654954	45.584039
Spanish Hollow Creek	13	-120.647043	45.580847
Spanish Hollow Creek	14	-120.639809	45.579544
Spanish Hollow Creek	15	-120.630676	45.577668
Spanish Hollow Creek	16	-120.62246	45.576566
Spanish Hollow Creek	17	-120.622486	45.570648
Spanish Hollow Creek	18	-120.618818	45.564684
Threemile Creek	1	-121.178972	45.228205
Threemile Creek	2	-121.188506	45.230423
Threemile Creek	3	-121.197739	45.230114
Threemile Creek	4	-121.207534	45.229641
Threemile Creek	5	-121.217022	45.231141

Stream Name	Point	Longitude	Latitude
Threemile Creek	6	-121.224712	45.229917
Threemile Creek	7	-121.231562	45.225021
Threemile Creek	8	-121.240879	45.224074
Threemile Creek	9	-121.250417	45.223722
Threemile Creek	10	-121.259788	45.226336
Threemile Creek	11	-121.269047	45.228586
Threemile Creek	12	-121.279093	45.228769
Threemile Creek	13	-121.289021	45.22792
Threemile Creek	14	-121.298703	45.226085
Threemile Creek	15	-121.308798	45.226318
Threemile Creek	0	-121.318869	45.225617
Trail Hollow Creek	1	-121.04949	45.160319
Trail Hollow Creek	2	-121.0463	45.153654
Trail Hollow Creek	3	-121.04286	45.147224
Trail Hollow Creek	4	-121.042515	45.140262
Trail Hollow Creek	5	-121.035407	45.136184
Trail Hollow Creek	6	-121.032646	45.129531
Trail Hollow Creek	7	-121.03352	45.12246
Trail Hollow Creek	8	-121.025976	45.119593
Trail Hollow Creek	9	-121.020225	45.11393
Trail Hollow Creek	10	-121.015183	45.108554
Trail Hollow Creek	11	-121.017036	45.101579
Trail Hollow Creek	12	-121.018933	45.094546

Lower John Day – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Juniper Creek	1	-119.850769	45.197762
Juniper Creek	2	-119.846387	45.19188
Juniper Creek	3	-119.843494	45.18523
Juniper Creek	4	-119.843248	45.178278
Juniper Creek	5	-119.841416	45.172467
Juniper Creek	6	-119.839216	45.16653
Juniper Creek	7	-119.83177	45.163446
Juniper Creek	8	-119.826083	45.159258
Juniper Creek	9	-119.820533	45.154334
Lone Rock Creek	1	-119.92679	45.138731
Lone Rock Creek	2	-119.922685	45.132753
Lone Rock Creek	3	-119.917152	45.127148
Lone Rock Creek	4	-119.916724	45.120122
Lone Rock Creek	5	-119.914035	45.114077
Lone Rock Creek	6	-119.906576	45.111164
Lone Rock Creek	7	-119.902878	45.105151
Lone Rock Creek	8	-119.899491	45.099854
Lone Rock Creek	9	-119.894363	45.093906
Rock Creek	1	-120.293586	45.569469
Rock Creek	2	-120.283801	45.569879
Rock Creek	3	-120.278052	45.565795
Rock Creek	4	-120.270231	45.561572
Rock Creek	5	-120.261786	45.559116
Rock Creek	6	-120.253635	45.555502
Rock Creek	7	-120.247132	45.550121
Rock Creek	8	-120.247891	45.544712
Rock Creek	9	-120.247719	45.539492
Rock Creek	10	-120.239427	45.541496
Rock Creek	11	-120.235684	45.536243
Rosebush Creek	1	-120.722897	45.407443
Rosebush Creek	2	-120.715983	45.402407
Rosebush Creek	3	-120.711928	45.395882
Rosebush Creek	4	-120.713146	45.389147
Rosebush Creek	5	-120.710499	45.384065
Rosebush Creek	6	-120.711937	45.37855
Rosebush Creek	7	-120.713652	45.371951
Thirtymile Creek	1	-120.304661	45.159065
Thirtymile Creek	9	-120.243873	45.154904
Thirtymile Creek	2	-120.294915	45.159309
Thirtymile Creek	3	-120.286237	45.158694
Thirtymile Creek	4	-120.280076	45.158077
Thirtymile Creek	5	-120.27332	45.155858
Thirtymile Creek	6	-120.265457	45.157728
Thirtymile Creek	7	-120.256971	45.158653
Thirtymile Creek	8	-120.249463	45.157255

Lower Willamette – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Johnson Creek	1	-122.370667	45.462017
Johnson Creek	2	-122.361233	45.463289
Johnson Creek	3	-122.351493	45.462087
Johnson Creek	4	-122.341995	45.461533
Johnson Creek	5	-122.332365	45.461273
Johnson Creek	6	-122.322786	45.459334
Johnson Creek	7	-122.31312	45.461049
Johnson Creek	8	-122.303522	45.461785
Johnson Creek	9	-122.296372	45.457508
Kelly Creek	1	-122.494522	45.470191
Kelly Creek	2	-122.485435	45.467358
Kelly Creek	3	-122.476163	45.465882
Mount Scott Creek	1	-122.600438	45.429472
Mount Scott Creek	2	-122.591213	45.43056
Mount Scott Creek	3	-122.581634	45.428859
Mount Scott Creek	4	-122.573571	45.427274
Mount Scott Creek	5	-122.564028	45.428484
Osburn Creek	1	-122.49178	45.556138
Osburn Creek	2	-122.485107	45.552443
Osburn Creek	3	-122.477591	45.548984
Osburn Creek	4	-122.467589	45.548713
Osburn Creek	5	-122.457591	45.549747

Malheur – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Cow Creek	1	-117.641857	44.334973
Cow Creek	2	-117.649599	44.332258
Cow Creek	3	-117.657668	44.329473
Cow Creek	4	-117.663503	44.325895
Cow Creek	5	-117.664816	44.319126
Cow Creek	6	-117.670524	44.314643
Cow Creek	7	-117.679492	44.31188
Cow Creek	8	-117.689229	44.31102
Cow Creek	9	-117.694867	44.306311
Crane Creek	1	-118.409015	43.339479
Crane Creek	2	-118.417654	43.342805
Crane Creek	3	-118.426699	43.344981
Crane Creek	4	-118.43333	43.349457
Crane Creek	5	-118.441334	43.352908
Crane Creek	6	-118.447811	43.357605
Crane Creek	7	-118.456103	43.360904
Crane Creek	8	-118.464994	43.362057
Crane Creek	9	-118.474297	43.361696
Gum Creek	1	-117.495821	44.201962
Gum Creek	2	-117.504897	44.203786
Gum Creek	3	-117.514668	44.203994
Gum Creek	4	-117.523939	44.202654
Gum Creek	5	-117.532644	44.199701
Gum Creek	6	-117.541128	44.197346
Gum Creek	7	-117.551086	44.198067
Lost Valley Creek	1	-117.835721	44.343052
Lost Valley Creek	2	-117.84352	44.340146
Lost Valley Creek	3	-117.848733	44.335595
Lost Valley Creek	4	-117.854855	44.330703
Lost Valley Creek	5	-117.856779	44.324225
Lost Valley Creek	6	-117.859914	44.318107
Lost Valley Creek	7	-117.865498	44.312398
North Clover Creek	1	-117.881315	44.150572
North Clover Creek	2	-117.882466	44.157674
North Clover Creek	3	-117.884186	44.16405
North Clover Creek	4	-117.885775	44.170915
North Clover Creek	5	-117.890653	44.176865
North Clover Creek	6	-117.893299	44.183107
North Clover Creek	7	-117.891655	44.189522
South Fork Malheur River	1	-118.227344	43.442905
South Fork Malheur River	2	-118.233208	43.438336
South Fork Malheur River	3	-118.242219	43.438594
South Fork Malheur River	4	-118.249861	43.440236
South Fork Malheur River	5	-118.258253	43.442696
South Fork Malheur River	6	-118.26306	43.44684

Stream Name	Point	Longitude	Latitude
South Fork Malheur River	7	-118.264331	43.440029
South Fork Malheur River	8	-118.270193	43.434455
South Fork Malheur River	9	-118.271156	43.428865
Stinkingwater Creek	1	-118.450999	43.770952
Stinkingwater Creek	2	-118.451316	43.765387
Stinkingwater Creek	3	-118.451605	43.760487
Stinkingwater Creek	4	-118.453709	43.754185
Stinkingwater Creek	5	-118.451805	43.748568
Stinkingwater Creek	6	-118.447432	43.743943
Stinkingwater Creek	7	-118.444095	43.738139
Stinkingwater Creek	8	-118.443991	43.731184
Stinkingwater Creek	9	-118.443465	43.725392
Swamp Creek	1	-118.207145	43.358817
Swamp Creek	2	-118.200126	43.360883
Swamp Creek	3	-118.1911	43.360279
Swamp Creek	4	-118.183258	43.358707
Swamp Creek	5	-118.174854	43.360321
Swamp Creek	6	-118.170149	43.354813
Swamp Creek	7	-118.166289	43.34911
Wolf Creek	1	-118.60569	43.909623
Wolf Creek	2	-118.612621	43.91467
Wolf Creek	3	-118.614241	43.920665
Wolf Creek	4	-118.620226	43.925535
Wolf Creek	5	-118.624788	43.930993
Wolf Creek	6	-118.631301	43.934187
Wolf Creek	7	-118.638291	43.937926

Mid Coast – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bummer Creek	1	44.37441474010	-123.60207035700
Bummer Creek	2	44.37021314140	-123.60515687800
Bummer Creek	3	44.36436135250	-123.60979676300
Bummer Creek	4	44.35879694770	-123.60854502600
Bummer Creek	5	44.35247329250	-123.61228746700
Bummer Creek	6	44.34672906590	-123.61379623500
Bummer Creek	7	44.34028798440	-123.61586335200
Bummer Creek	8	44.33479395250	-123.61418516800
Bummer Creek	9	44.32817962520	-123.61296952800
Deadwood Creek	1	44.13596543790	-123.73111321000
Deadwood Creek	2	44.14255339620	-123.72959077200
Deadwood Creek	3	44.14747575840	-123.72560645500
Deadwood Creek	4	44.14237817880	-123.71929168300
Deadwood Creek	5	44.13834810290	-123.71121203300
Deadwood Creek	6	44.14224599820	-123.70838194600
Deadwood Creek	7	44.14701243350	-123.71577255100
Deadwood Creek	8	44.15389033150	-123.71809966300
Deadwood Creek	9	44.15350375840	-123.70922074900
Deadwood Creek	10	44.15936618760	-123.70554453600
Deadwood Creek	11	44.16305526800	-123.70092496200
Elk Creek	1	44.61556726090	-123.87149420500
Elk Creek	2	44.61567432040	-123.86626677600
Elk Creek	3	44.62277269560	-123.86598023800
Elk Creek	4	44.61964761760	-123.85996730300
Elk Creek	5	44.61264824840	-123.85767091000
Elk Creek	6	44.60621859460	-123.85347506300
Elk Creek	7	44.59933066700	-123.85485050800
Elk Creek	8	44.59771130950	-123.85053603900
Elk Creek	9	44.59200949160	-123.84789157500
Elk Creek	10	44.58849882420	-123.83975415900
Elk Creek	11	44.58650937470	-123.84667157300
Indian Creek	1	44.10758662600	-123.85057286000
Indian Creek	2	44.11458366810	-123.84861943600
Indian Creek	3	44.12143465260	-123.84598430500
Indian Creek	4	44.12510027930	-123.83812104300
Indian Creek	5	44.11940254550	-123.83494814400
Indian Creek	6	44.12545746970	-123.83149558400
Indian Creek	7	44.13005061030	-123.82431014800
Indian Creek	8	44.13501406850	-123.83024182500
Indian Creek	9	44.13065252010	-123.83655741600
Indian Creek	10	44.13514007520	-123.84273360400
Indian Creek	11	44.13975104160	-123.83627735300
Maple Creek	1	43.91036223200	-124.03798194600
Maple Creek	2	43.91638618780	-124.03369506500
Maple Creek	3	43.92263836540	-124.02962993500

Stream Name	Point	Longitude	Latitude
Maple Creek	4	43.92606674730	-124.02140303600
Maple Creek	5	43.92958567980	-124.01422854100
Maple Creek	6	43.93054351480	-124.00654262800
Maple Creek	7	43.92950523690	-123.99928143400
Maple Creek	8	43.92583028240	-123.99151433100
Maple Creek	9	43.92301135070	-123.98766427800
North Folk Siuslaw River	1	44.01260593250	-124.04806203600
North Folk Siuslaw River	2	44.01375247390	-124.03869633900
North Folk Siuslaw River	3	44.01875306940	-124.03674478300
North Folk Siuslaw River	4	44.02414260620	-124.03814544600
North Folk Siuslaw River	5	44.02752777110	-124.03718674600
North Folk Siuslaw River	6	44.02977259480	-124.03657327300
North Folk Siuslaw River	7	44.02688984680	-124.03061008600
North Folk Siuslaw River	8	44.02085521480	-124.03250342200
North Folk Siuslaw River	9	44.01967848820	-124.02795102700
North Folk Siuslaw River	10	44.02337631320	-124.02376243600
North Folk Siuslaw River	11	44.02862881540	-124.02284283500
Siletz River	1	44.77536663880	-123.92313991100
Siletz River	2	44.77772636860	-123.93210518700
Siletz River	3	44.77440755940	-123.94106957900
Siletz River	4	44.76912515410	-123.93571417100
Siletz River	5	44.76589635360	-123.92874088300
Siletz River	6	44.76474589940	-123.91906012300
Siletz River	7	44.76343148100	-123.90908901700
Siletz River	8	44.76226210550	-123.89940004900
Siletz River	9	44.75837572450	-123.89100119500
Siletz River	10	44.75614017460	-123.89594067000
Siletz River	11	44.75538624220	-123.90586645700
Yaquina River	1	44.65426248430	-123.75547812300
Yaquina River	2	44.65782804380	-123.75198205000
Yaquina River	3	44.66031302940	-123.74754640000
Yaquina River	4	44.66696538300	-123.74834581300
Yaquina River	5	44.66782467400	-123.73886818000
Yaquina River	6	44.66510086220	-123.72955978800
Yaquina River	7	44.66420993910	-123.71970715300
Yaquina River	8	44.66876685320	-123.71231729500
Yaquina River	9	44.66749727990	-123.70814712200
Yaquina River	10	44.66250848300	-123.70297174800
Yaquina River	11	44.65982182440	-123.69424538600
Yaquina River	12	44.65546799450	-123.68720130500
Yaquina River	13	44.65573083490	-123.67878383700

Middle Deschutes – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Amity Creek	1	44.6380122782	-120.6719965280
Amity Creek	2	44.6408971242	-120.6642998670
Amity Creek	3	44.6421037635	-120.6554443520
Amity Creek	4	44.6417399565	-120.6480297660
Amity Creek	5	44.6426178845	-120.6388526380
Amity Creek	6	44.6461880263	-120.6305568610
Amity Creek	7	44.6475679752	-120.6211733250
Amity Creek	8	44.6465759607	-120.6127656880
Amity Creek	9	44.6474814961	-120.6056048290
Antelope Creek	1	44.8656970728	-120.8109936560
Antelope Creek	2	44.8665488939	-120.8012348230
Antelope Creek	3	44.8716195664	-120.7960963090
Antelope Creek	4	44.8748127758	-120.7872580400
Antelope Creek	5	44.8778833459	-120.7796362320
Antelope Creek	6	44.8777719864	-120.7708505450
Antelope Creek	7	44.8805819306	-120.7632431080
Antelope Creek	8	44.8873739492	-120.7609261980
Antelope Creek	9	44.8933491803	-120.7557033870
Antelope Creek	10	44.8962031183	-120.7476461570
Antelope Creek	11	44.8996412624	-120.7393287290
Antelope Creek	12	44.9009811313	-120.7297535450
Antelope Creek	13	44.9058470772	-120.7225585250
Indian Creek	1	44.8715122563	-120.7962609490
Indian Creek	2	44.8770221204	-120.8020699370
Indian Creek	3	44.8829215776	-120.8064133660
Indian Creek	4	44.8893004662	-120.8093646040
Indian Creek	5	44.8958230782	-120.8076275270
Indian Creek	6	44.9007493216	-120.8010544680
Indian Creek	7	44.9062693692	-120.7953220260
Indian Creek	8	44.9052567645	-120.7855435120
Indian Creek	9	44.9085697822	-120.7777482130
Indian Creek	10	44.9127581932	-120.7718414470
Indian Creek	11	44.9195074383	-120.7697458250
Indian Creek	12	44.9259544968	-120.7655620370
Indian Creek	13	44.9327607393	-120.7642979520
Pony Creek	1	44.8054341906	-120.9174965250
Pony Creek	2	44.8045995326	-120.9079805500
Pony Creek	3	44.8016655499	-120.9014538170
Pony Creek	4	44.7971873948	-120.8945562040
Pony Creek	5	44.7930878012	-120.8868141350
Pony Creek	6	44.7908159833	-120.8777374280
Pony Creek	7	44.7876864099	-120.8695894840
Pony Creek	8	44.7824803703	-120.8669843930
Pony Creek	9	44.7763102011	-120.8630688840
Pony Creek	10	44.7713514037	-120.8578940350

Stream Name	Point	Longitude	Latitude
Pony Creek	11	44.7683714116	-120.8509871240
Pony Creek	13	44.7606670979	-120.8352367290
Pony Creek	14	44.7569933580	-120.8274313160
Pony Creek	15	44.7521584192	-120.8207374730
Pony Creek	16	44.7451468554	-120.8218385730
Tenmile Creek	1	44.8492119758	-120.9939577280
Tenmile Creek	2	44.8552400928	-120.9889155970
Tenmile Creek	3	44.8616360945	-120.9849059660
Tenmile Creek	4	44.8675816640	-120.9806920870
Tenmile Creek	5	44.8735191187	-120.9753687410
Tenmile Creek	6	44.8797465947	-120.9711051580
Tenmile Creek	7	44.8858552269	-120.9660166940
Tenmile Creek	8	44.8920327800	-120.9625850430
Trout Creek	1	44.8029368972	-121.0620367010
Trout Creek	2	44.8030964297	-121.0551688850
Trout Creek	3	44.8090604073	-121.0530511520
Trout Creek	4	44.8066668566	-121.0453913260
Trout Creek	5	44.8034936720	-121.0377943040
Trout Creek	6	44.7994834195	-121.0300973220
Trout Creek	7	44.7969609896	-121.0212634420
Trout Creek	8	44.7939786745	-121.0124751990
Trout Creek	9	44.7911214644	-121.0039992960
Trout Creek	10	44.7849000747	-121.0042872710
Trout Creek	11	44.7869399342	-120.9948169340
Trout Creek	12	44.7881805457	-120.9850269610
Trout Creek	13	44.7849687653	-120.9761286400
Trout Creek	14	44.7858639646	-120.9666399330
Trout Creek	15	44.7912023901	-120.9603883440
Trout Creek	16	44.7962780962	-120.9547886300
Trout Creek	17	44.8011582437	-120.9478541140
Trout Creek	18	44.8053570199	-120.9407641780
Trout Creek	19	44.8101081534	-120.9345190380
Trout Creek	20	44.8154624840	-120.9294467270
Willow Creek	17	44.4990690441	-120.8878913060
Willow Creek	18	44.5018887022	-120.8792804710
Willow Creek	16	44.4968099792	-120.8942472500
Willow Creek	1	44.5043340923	-121.0254011450
Willow Creek	2	44.5014207446	-121.0172684770
Willow Creek	3	44.5028505234	-121.0085733840
Willow Creek	4	44.5036181986	-120.9985659800
Willow Creek	5	44.5071105022	-120.9911609870
Willow Creek	6	44.5059193688	-120.9823468230
Willow Creek	7	44.5037544886	-120.9745826460
Willow Creek	8	44.5064567513	-120.9670131280
Willow Creek	9	44.5074198499	-120.9572049560
Willow Creek	10	44.5093448463	-120.9480012720
Willow Creek	11	44.5067428969	-120.9387635910

Stream Name	Point	Longitude	Latitude
Willow Creek	12	44.5045899178	-120.9299817830
Willow Creek	13	44.5011553730	-120.9212396090
Willow Creek	14	44.4992189095	-120.9116324510
Willow Creek	15	44.4972450135	-120.9027181860

Middle Willamette – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Fern Creek	1	-123.362893	44.84452
Fern Creek	2	-123.363958	44.851717
Fern Creek	3	-123.360275	44.857793
Fern Creek	4	-123.354676	44.863747
Fern Creek	5	-123.347862	44.869007
Fern Creek	6	-123.340541	44.87305
Fern Creek	7	-123.332876	44.877655
Fern Creek	8	-123.328304	44.883366
Fern Creek	9	-123.328158	44.890571
Greasy Creek	1	-123.429368	44.514677
Greasy Creek	2	-123.432352	44.508578
Greasy Creek	3	-123.436541	44.503248
Greasy Creek	4	-123.440044	44.497756
Greasy Creek	5	-123.436206	44.492273
Greasy Creek	6	-123.441397	44.488185
Greasy Creek	7	-123.449403	44.484442
Greasy Creek	8	-123.455347	44.479403
Greasy Creek	9	-123.45957	44.474288
Jont Creek	1	-123.319053	44.774316
Jont Creek	2	-123.323207	44.771825
Jont Creek	3	-123.329364	44.767052
Jont Creek	4	-123.33358	44.761116
Jont Creek	5	-123.332586	44.755135
Jont Creek	6	-123.338434	44.749675
Jont Creek	7	-123.345378	44.745064
Jont Creek	8	-123.351578	44.74018
Jont Creek	9	-123.355786	44.733701
Oak Point Creek	1	-123.166235	44.898711
Oak Point Creek	2	-123.172663	44.896496
Oak Point Creek	3	-123.176789	44.902069
Oak Point Creek	4	-123.182207	44.907303
Oak Point Creek	5	-123.190193	44.911339
Oak Point Creek	6	-123.199636	44.912598
Oak Point Creek	7	-123.209138	44.913499
Oak Point Creek	8	-123.218496	44.913051
Oak Point Creek	9	-123.228245	44.91453
Soap Creek	1	-123.218389	44.731255
Soap Creek	2	-123.227432	44.73165
Soap Creek	3	-123.236344	44.728824
Soap Creek	4	-123.242462	44.724539
Soap Creek	5	-123.251658	44.723027
Soap Creek	6	-123.252192	44.716863
Soap Creek	7	-123.253268	44.710298
Soap Creek	8	-123.250177	44.703927
Soap Creek	9	-123.24835	44.697576

Stream Name	Point	Longitude	Latitude
Tumtum River	1	-123.552532	44.58223
Tumtum River	2	-123.552604	44.586045
Tumtum River	3	-123.552255	44.591686
Tumtum River	4	-123.552869	44.596959
Tumtum River	5	-123.558995	44.600122
Tumtum River	6	-123.566329	44.59867
Tumtum River	7	-123.574134	44.599394
Tumtum River	8	-123.580985	44.597519
Tumtum River	9	-123.587159	44.593461

Molalla Pudding - Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bochsler Creek	1	-122.776042	45.094856
Bochsler Creek	2	-122.766547	45.093091
Bochsler Creek	3	-122.759657	45.087991
Bochsler Creek	4	-122.754496	45.082033
Bochsler Creek	5	-122.748703	45.076226
Bochsler Creek	6	-122.741946	45.070993
Bochsler Creek	7	-122.73273	45.068678
Brush Creek	1	-122.830012	45.00398
Brush Creek	2	-122.822764	44.999037
Brush Creek	3	-122.818187	44.994495
Brush Creek	4	-122.808696	44.993763
Brush Creek	5	-122.799392	44.991078
Case Creek	1	-122.88223	45.215695
Case Creek	2	-122.88223	45.209397
Case Creek	3	-122.885567	45.205788
Case Creek	4	-122.885955	45.199414
Case Creek	5	-122.888909	45.192608
Case Creek	6	-122.894945	45.187264
Case Creek	7	-122.900383	45.181967
Case Creek	8	-122.908842	45.178539
Case Creek	9	-122.909627	45.172126
Chehulpum Creek	1	-123.059768	44.759065
Chehulpum Creek	2	-123.049723	44.758352
Chehulpum Creek	3	-123.041759	44.759444
Chehulpum Creek	4	-123.036323	44.764247
Chehulpum Creek	5	-123.028294	44.762191
Chehulpum Creek	6	-123.019364	44.763865
Chehulpum Creek	7	-123.010323	44.761421
Chehulpum Creek	8	-123.002146	44.757827
Chehulpum Creek	9	-122.993849	44.756612
Chehulpum Creek	10	-122.984922	44.756547
Chehulpum Creek	11	-122.978153	44.761493
Cold Creek	1	-122.905515	44.750106
Cold Creek	2	-122.901039	44.754624
Cold Creek	3	-122.893057	44.755033
Cold Creek	4	-122.884386	44.752362
Cold Creek	5	-122.877121	44.754836
Fruitland Creek	1	-122.923371	44.966781
Fruitland Creek	2	-122.929917	44.964695
Fruitland Creek	3	-122.929748	44.959352
Fruitland Creek	4	-122.934287	44.957341
Fruitland Creek	5	-122.937876	44.953538
Fruitland Creek	6	-122.937547	44.948445
Fruitland Creek	7	-122.93828	44.943913

Stream Name	Point	Longitude	Latitude
Fruitland Creek	8	-122.942881	44.938558
Fruitland Creek	9	-122.944203	44.931702
Gribble Creek	1	-122.701512	45.224127
Gribble Creek	2	-122.70115	45.217974
Gribble Creek	3	-122.69858	45.211549
Gribble Creek	4	-122.696612	45.206355
Gribble Creek	5	-122.691337	45.2009
Gribble Creek	6	-122.682145	45.200283
Gribble Creek	7	-122.674477	45.204394
Gribble Creek	8	-122.665179	45.205423
Gribble Creek	9	-122.655423	45.20354
Kaiser Creek	1	-122.651488	45.133055
Kaiser Creek	2	-122.643167	45.134813
Kaiser Creek	3	-122.636311	45.139544
Kaiser Creek	4	-122.626289	45.139905
Kaiser Creek	5	-122.616977	45.137033
Kraus Creek	1	-122.84445	45.061784
Kraus Creek	2	-122.85239	45.061493
Kraus Creek	3	-122.856472	45.060684
Kraus Creek	4	-122.862145	45.054844
Kraus Creek	5	-122.869046	45.049675
Kraus Creek	6	-122.876403	45.044755
Kraus Creek	7	-122.878826	45.03779
McKinney Creek	1	-122.96221	44.825727
McKinney Creek	2	-122.960802	44.818691
McKinney Creek	3	-122.956901	44.81264
McKinney Creek	4	-122.952878	44.806787
McKinney Creek	5	-122.949017	44.800287
McKinney Creek	6	-122.947024	44.793279
McKinney Creek	7	-122.944522	44.786416
Morgan Creek	1	-123.062025	44.74834
Morgan Creek	2	-123.053591	44.749137
Morgan Creek	3	-123.046797	44.748944
Morgan Creek	4	-123.037685	44.748873
Morgan Creek	5	-123.032902	44.742536
Patterson Creek	1	-123.007041	45.104348
Patterson Creek	2	-122.997289	45.102219
Patterson Creek	3	-122.992134	45.097578
Patterson Creek	4	-122.987279	45.091693
Patterson Creek	5	-122.983531	45.085305
Patterson Creek	6	-122.981257	45.078918
Patterson Creek	7	-122.979717	45.074901
Patterson Creek	8	-122.975294	45.075129
Patterson Creek	9	-122.968106	45.076013
Ryan Creek	1	-122.855026	45.239347
Ryan Creek	2	-122.85294	45.232729
Ryan Creek	3	-122.855707	45.227807

Stream Name	Point	Longitude	Latitude
Ryan Creek	4	-122.856542	45.220703
Ryan Creek	5	-122.859418	45.213932
Ryan Creek	6	-122.860267	45.207064
Ryan Creek	7	-122.862348	45.200464
West Champoeg Creek	1	-122.948036	45.162426
West Champoeg Creek	2	-122.953626	45.157102
West Champoeg Creek	3	-122.958188	45.151971
West Champoeg Creek	4	-122.963149	45.146253
West Champoeg Creek	5	-122.969097	45.142396
West Champoeg Creek	6	-122.972357	45.136356
West Champoeg Creek	7	-122.977036	45.130947

North Coast – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Kilchis River	1	45.49577509910	-123.85002498900
Kilchis River	2	45.49648872560	-123.83998640400
Kilchis River	3	45.50128629500	-123.83373670400
Kilchis River	4	45.50500383300	-123.83570432800
Kilchis River	5	45.50979529690	-123.83370367100
Kilchis River	6	45.51495716720	-123.82685086300
Kilchis River	7	45.52138602410	-123.82749927600
Kilchis River	8	45.52303425080	-123.81759891400
Kilchis River	9	45.52413974770	-123.80759218400
Kilchis River	10	45.52516625580	-123.79874602200
Kilchis River	11	45.52750341060	-123.79248013600
Lewis And Clark River	1	46.13374718170	-123.87587787700
Lewis And Clark River	2	46.12684055720	-123.87583845400
Lewis And Clark River	3	46.11962024380	-123.87531207100
Lewis And Clark River	4	46.11654279940	-123.86769751600
Lewis And Clark River	5	46.11516314150	-123.85910433600
Lewis And Clark River	6	46.10816815600	-123.85947942300
Lewis And Clark River	7	46.10263413600	-123.85321605000
Lewis And Clark River	8	46.09666847170	-123.85010962400
Lewis And Clark River	9	46.09133078870	-123.84572152100
Lewis And Clark River	10	46.08851533420	-123.84047170500
Lewis And Clark River	11	46.08317647230	-123.84096931300
Little Nestucca River	1	45.16000087180	-123.93520477100
Little Nestucca River	2	45.15947109190	-123.92515348600
Little Nestucca River	3	45.15535289420	-123.92132513200
Little Nestucca River	4	45.15281755800	-123.91489364200
Little Nestucca River	5	45.15026323080	-123.90979471700
Little Nestucca River	6	45.14479949010	-123.90603201600
Little Nestucca River	7	45.13966858490	-123.90063064200
Little Nestucca River	8	45.13560733230	-123.89557779400
Little Nestucca River	9	45.12974455060	-123.89047552300
Miami River	1	45.56466894530	-123.88352900300
Miami River	2	45.56843091230	-123.87568208200
Miami River	3	45.57400883230	-123.87344789900
Miami River	4	45.58108203350	-123.87260630000
Miami River	5	45.58595844560	-123.87172617100
Miami River	6	45.59202084270	-123.86885291400
Miami River	7	45.59870793310	-123.86911044100
Miami River	8	45.60350805000	-123.87572813900
Miami River	9	45.60945241220	-123.87299411000
Nehalem River	1	46.00257824860	-123.32700358400
Nehalem River	2	46.00431475330	-123.32007634100
Nehalem River	3	46.01095752960	-123.32075603100
Nehalem River	4	46.01532826840	-123.31563103100
Nehalem River	5	46.01380214220	-123.30741427700

Stream Name	Point	Longitude	Latitude
Nehalem River	6	46.01301685790	-123.29841207600
Nehalem River	7	46.00982027810	-123.29376623700
Nehalem River	8	46.00466145940	-123.29080019800
Nehalem River	9	45.99996717680	-123.28666514400
Nehalem River	10	46.00153791970	-123.27734430000
Nehalem River	11	46.00312765570	-123.26763152000
North Fork Nehalem River	1	45.73974915250	-123.86107406900
North Fork Nehalem River	2	45.74175585760	-123.85143800000
North Fork Nehalem River	3	45.74777509320	-123.84804148200
North Fork Nehalem River	4	45.75120253620	-123.84247470600
North Fork Nehalem River	5	45.75703731620	-123.84037983200
North Fork Nehalem River	6	45.76243047380	-123.84185050500
North Fork Nehalem River	7	45.76915719950	-123.84511778200
North Fork Nehalem River	8	45.77498618800	-123.84153322900
North Fork Nehalem River	9	45.78164871330	-123.83973841500

Owyhee – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Crooked Creek	1	-117.717459	42.875102
Crooked Creek	2	-117.722231	42.869105
Crooked Creek	3	-117.722654	42.862541
Crooked Creek	4	-117.731752	42.860752
Crooked Creek	5	-117.73908	42.857526
Crooked Creek	6	-117.731984	42.856353
Crooked Creek	7	-117.727208	42.852383
Crooked Creek	8	-117.735997	42.85094
Crooked Creek	9	-117.74275	42.845903
Crowley Creek	1	-117.942639	43.317445
Crowley Creek	2	-117.94946	43.317915
Crowley Creek	3	-117.958353	43.31825
Crowley Creek	4	-117.967283	43.31991
Crowley Creek	5	-117.975584	43.322027
Crowley Creek	6	-117.982026	43.325918
Crowley Creek	7	-117.987084	43.329365
Hooker Creek	1	-117.079462	43.03587
Hooker Creek	2	-117.071382	43.039392
Hooker Creek	3	-117.066552	43.045075
Hooker Creek	4	-117.06305	43.051423
Hooker Creek	5	-117.055276	43.055455
Hooker Creek	6	-117.047845	43.059381
Hooker Creek	7	-117.038908	43.061492
Jordan Creek	1	-117.52458	42.906264
Jordan Creek	2	-117.516607	42.902589
Jordan Creek	3	-117.518555	42.896081
Jordan Creek	4	-117.513166	42.893511
Jordan Creek	5	-117.504837	42.896946
Jordan Creek	6	-117.496174	42.899027
Jordan Creek	7	-117.488027	42.900393
Jordan Creek	8	-117.479175	42.902344
Jordan Creek	9	-117.469915	42.902367
Mahogany Creek	2	-117.260684	43.095782
Mahogany Creek	3	-117.257719	43.10147
Mahogany Creek	4	-117.24987	43.105033
Mahogany Creek	5	-117.243877	43.110579
Mahogany Creek	6	-117.236714	43.114594
Mahogany Creek	7	-117.228662	43.117559
Mahogany Creek	8	-117.22178	43.122099
Mahogany Creek	9	-117.215037	43.126376
Mahogany Creek	1	-117.267291	43.09121
Oregon Canyon Creek	1	-117.830531	42.208297
Oregon Canyon Creek	2	-117.838801	42.210928
Oregon Canyon Creek	3	-117.847826	42.209967
Oregon Canyon Creek	4	-117.857066	42.211312

Stream Name	Point	Longitude	Latitude
Oregon Canyon Creek	5	-117.864725	42.21502
Oregon Canyon Creek	6	-117.873423	42.215291
Oregon Canyon Creek	7	-117.881521	42.218821
Owyhee River	1	-117.483538	43.28547
Owyhee River	2	-117.486083	43.278583
Owyhee River	3	-117.488084	43.272269
Owyhee River	4	-117.494395	43.269335
Owyhee River	5	-117.497989	43.263172
Owyhee River	6	-117.496669	43.256625
Owyhee River	7	-117.490262	43.252145
Stockade Creek	1	-118.045849	43.223414
Stockade Creek	2	-118.040735	43.228098
Stockade Creek	3	-118.034944	43.233202
Stockade Creek	4	-118.029302	43.238261
Stockade Creek	5	-118.024613	43.24158
Succor Creek	1	-117.096012	43.340405
Succor Creek	2	-117.089951	43.335294
Succor Creek	3	-117.083577	43.330372
Succor Creek	4	-117.07746	43.325117
Succor Creek	5	-117.072031	43.319661
Succor Creek	6	-117.071578	43.312587
Succor Creek	7	-117.072204	43.305623
Succor Creek	8	-117.06922	43.299253
Succor Creek	9	-117.070241	43.292578

Powder – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Beagle Creek	1	-117.663017	44.984577
Beagle Creek	2	-117.660231	44.991003
Beagle Creek	3	-117.66265	44.997678
Beagle Creek	4	-117.66609	45.004378
Beagle Creek	5	-117.669347	45.010981
Beagle Creek	6	-117.670913	45.017496
Beagle Creek	7	-117.667997	45.024265
Daly Creek	1	-117.133328	44.72406
Daly Creek	2	-117.129689	44.717669
Daly Creek	3	-117.127569	44.711138
Daly Creek	4	-117.125354	44.704167
Daly Creek	5	-117.127154	44.697554
Daly Creek	6	-117.126454	44.690513
Daly Creek	7	-117.132606	44.685321
Ebell Creek	1	-117.72603	44.689194
Ebell Creek	2	-117.728589	44.682535
Ebell Creek	3	-117.729669	44.675556
Ebell Creek	4	-117.730532	44.668452
Ebell Creek	5	-117.732119	44.661484
Gentry Creek	1	-117.878079	45.019102
Gentry Creek	2	-117.869484	45.016514
Gentry Creek	3	-117.863172	45.013877
Gentry Creek	4	-117.854373	45.01189
Gentry Creek	5	-117.84567	45.011566
Gentry Creek	6	-117.838625	45.007858
Gentry Creek	7	-117.833977	45.002325
Gentry Creek	8	-117.830794	44.995676
Gentry Creek	9	-117.826962	44.989566
Houghton Creek	1	-117.606981	44.893016
Houghton Creek	2	-117.60684	44.900112
Houghton Creek	3	-117.60823	44.907125
Houghton Creek	4	-117.611896	44.912904
Houghton Creek	5	-117.611535	44.919669
Houghton Creek	6	-117.609177	44.926248
Houghton Creek	7	-117.609628	44.933319
Love Creek	1	-117.435378	44.82268
Love Creek	2	-117.437798	44.816993
Love Creek	3	-117.442811	44.81101
Love Creek	4	-117.444489	44.804104
Love Creek	5	-117.445138	44.797007
Love Creek	6	-117.444566	44.790074
Love Creek	7	-117.446298	44.783049
Magpie Creek	1	-117.768107	44.953583
Magpie Creek	2	-117.770795	44.947183
Magpie Creek	3	-117.769717	44.940066

Stream Name	Point	Longitude	Latitude
Magpie Creek	4	-117.766154	44.933406
Magpie Creek	5	-117.763551	44.927023
Magpie Creek	6	-117.771655	44.926247
Magpie Creek	7	-117.777436	44.931827
Ruckles Creek	1	-117.592694	44.857346
Ruckles Creek	2	-117.590461	44.852746
Ruckles Creek	3	-117.593264	44.846102
Ruckles Creek	4	-117.592434	44.83935
Ruckles Creek	5	-117.591682	44.83225
Ruckles Creek	6	-117.590114	44.825599
Ruckles Creek	7	-117.589829	44.818681
Sag Creek	1	-117.032838	44.855103
Sag Creek	2	-117.040268	44.851041
Sag Creek	3	-117.048857	44.8491
Sag Creek	4	-117.058709	44.848593
Sag Creek	5	-117.068357	44.85033
Sag Creek	6	-117.077185	44.853384
Sag Creek	7	-117.084516	44.857904
Second Creek	1	-117.605452	44.797474
Second Creek	2	-117.609716	44.791914
Second Creek	3	-117.609719	44.785004
Second Creek	4	-117.611144	44.778299
Second Creek	5	-117.609299	44.771436
Second Creek	6	-117.608729	44.764415
Second Creek	7	-117.606657	44.757499
Sutton Creek	1	-117.753539	44.700089
Sutton Creek	2	-117.755937	44.693354
Sutton Creek	3	-117.758328	44.686853
Sutton Creek	4	-117.755358	44.680755
Sutton Creek	5	-117.751484	44.674475
Sutton Creek	6	-117.749769	44.667893
Sutton Creek	7	-117.750241	44.660805
Sutton Creek	8	-117.751662	44.653753
Sutton Creek	9	-117.752776	44.646743

South Santiam – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Cochran Creek	1	-123.016711	44.454667
Cochran Creek	2	-123.011025	44.448702
Cochran Creek	3	-123.006177	44.442603
Cochran Creek	4	-123.003821	44.43605
Cochran Creek	5	-122.995846	44.431736
Cochran Creek	6	-122.98906	44.426466
Cochran Creek	7	-122.981608	44.425115
Crabtree Creek	1	-122.829475	44.655664
Crabtree Creek	2	-122.822887	44.652163
Crabtree Creek	3	-122.814086	44.655087
Crabtree Creek	4	-122.805278	44.657989
Crabtree Creek	5	-122.797706	44.661494
Crabtree Creek	6	-122.790109	44.662373
Crabtree Creek	7	-122.783723	44.658244
Crabtree Creek	8	-122.777923	44.656351
Crabtree Creek	9	-122.773123	44.653515
Crooks Creek	1	-123.116038	44.724892
Crooks Creek	2	-123.106383	44.723226
Crooks Creek	3	-123.098538	44.720811
Crooks Creek	4	-123.0901	44.721533
Crooks Creek	5	-123.082972	44.720217
Crooks Creek	6	-123.076414	44.71736
Crooks Creek	7	-123.070487	44.712222
Hamilton Creek	1	-122.776783	44.504817
Hamilton Creek	2	-122.768672	44.503528
Hamilton Creek	3	-122.761027	44.501271
Hamilton Creek	4	-122.752511	44.498834
Hamilton Creek	5	-122.745335	44.496361
Hamilton Creek	6	-122.735784	44.496444
Hamilton Creek	7	-122.729404	44.500247
Muddy Creek	1	-123.136238	44.336524
Muddy Creek	2	-123.13966	44.330694
Muddy Creek	3	-123.132249	44.332359
Muddy Creek	4	-123.130437	44.326225
Muddy Creek	5	-123.139741	44.325783
Muddy Creek	6	-123.138286	44.319939
Muddy Creek	7	-123.135007	44.314879
Muddy Creek	8	-123.137028	44.30897
Muddy Creek	9	-123.131898	44.309958
Noble Creek	1	-122.794395	44.461541
Noble Creek	2	-122.797719	44.454817
Noble Creek	3	-122.798037	44.447766
Noble Creek	4	-122.799324	44.440905
Noble Creek	5	-122.807949	44.438071
Owl Creek	1	-123.205663	44.546729

Stream Name	Point	Longitude	Latitude
Owl Creek	2	-123.200229	44.54415
Owl Creek	3	-123.192016	44.542181
Owl Creek	4	-123.183741	44.538536
Owl Creek	5	-123.185376	44.532617
Owl Creek	6	-123.179238	44.528242
Owl Creek	7	-123.174052	44.522185
Pierce Creek	1	-123.04297	44.293248
Pierce Creek	2	-123.033033	44.292569
Pierce Creek	3	-123.023276	44.291618
Pierce Creek	4	-123.015657	44.28809
Pierce Creek	5	-123.008411	44.283427
Pierce Creek	6	-122.999171	44.283015
Pierce Creek	7	-122.989383	44.283711
Plainview Creek	1	-123.050005	44.468231
Plainview Creek	2	-123.044127	44.473809
Plainview Creek	3	-123.035352	44.476676
Plainview Creek	4	-123.026086	44.478428
Plainview Creek	5	-123.020351	44.483032
Plainview Creek	6	-123.017118	44.48963
Plainview Creek	7	-123.012274	44.494961
Spoon Creek	1	-123.088902	44.400707
Spoon Creek	2	-123.082063	44.397101
Spoon Creek	3	-123.083032	44.390266
Spoon Creek	4	-123.081363	44.383137
Spoon Creek	5	-123.085599	44.377749
Spoon Creek	6	-123.082619	44.371422
Spoon Creek	7	-123.075179	44.367897

Tualatin – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bledsoe Creek	1	-123.06412	45.598534
Bledsoe Creek	2	-123.059706	45.604933
Bledsoe Creek	3	-123.050927	45.607046
Bledsoe Creek	4	-123.043912	45.611505
Bledsoe Creek	5	-123.040471	45.617607
Bledsoe Creek	6	-123.047492	45.621868
Bledsoe Creek	8	-123.067546	45.625004
Bledsoe Creek	7	-123.057627	45.623018
Bledsoe Creek	9	-123.074308	45.630249
Burris Creek	1	-122.95745	45.430081
Burris Creek	2	-122.9616	45.425188
Burris Creek	3	-122.969899	45.426385
Burris Creek	4	-122.972066	45.430292
Burris Creek	5	-122.981317	45.430194
Burris Creek	6	-122.989163	45.427316
Burris Creek	7	-122.994643	45.421935
Burris Creek	8	-123.001585	45.418371
Burris Creek	9	-123.010771	45.415679
Council Creek	1	-123.056806	45.527018
Council Creek	2	-123.062655	45.531903
Council Creek	3	-123.070965	45.528839
Council Creek	4	-123.078186	45.527776
Council Creek	5	-123.087052	45.529442
Council Creek	6	-123.096843	45.531094
Council Creek	7	-123.104783	45.535334
Council Creek	8	-123.107721	45.54174
Council Creek	9	-123.107796	45.548528
Davis Creek	1	-122.967975	45.471246
Davis Creek	2	-122.973001	45.465568
Davis Creek	3	-122.982731	45.465072
Davis Creek	4	-122.98971	45.469733
Davis Creek	5	-122.99922	45.471896
Davis Creek	6	-123.008548	45.470434
Davis Creek	7	-123.016759	45.466179
Davis Creek	8	-123.024576	45.462331
Davis Creek	9	-123.032888	45.459094
Hill Creek	1	-123.123621	45.434986
Hill Creek	2	-123.122384	45.427816
Hill Creek	3	-123.119099	45.420994
Hill Creek	4	-123.112448	45.41698

Stream Name	Point	Longitude	Latitude
Hill Creek	5	-123.104107	45.41935
Hill Creek	6	-123.096229	45.422261
Hill Creek	7	-123.089242	45.424969
Hill Creek	8	-123.080425	45.423305
Hill Creek	9	-123.071108	45.424555
McFee Creek	1	-122.941035	45.401027
McFee Creek	2	-122.945612	45.405316
McFee Creek	3	-122.953896	45.403763
McFee Creek	4	-122.96053	45.404384
McFee Creek	5	-122.966205	45.405732
McFee Creek	6	-122.97072	45.40135
McFee Creek	7	-122.974578	45.396405
McFee Creek	8	-122.980436	45.394225
McFee Creek	9	-122.989119	45.392246
Wapato Creek	1	-123.13067	45.437823
Wapato Creek	2	-123.137857	45.433687
Wapato Creek	3	-123.136061	45.426771
Wapato Creek	4	-123.132734	45.420534
Wapato Creek	5	-123.126092	45.415058
Wapato Creek	6	-123.122468	45.40915
Wapato Creek	7	-123.122615	45.402201
Wapato Creek	8	-123.129585	45.397225
Wapato Creek	9	-123.135948	45.391654
West Fork Dairy Creek	1	-123.095227	45.572594
West Fork Dairy Creek	2	-123.101587	45.569267
West Fork Dairy Creek	3	-123.105924	45.571245
West Fork Dairy Creek	4	-123.114145	45.571995
West Fork Dairy Creek	5	-123.121502	45.569842
West Fork Dairy Creek	6	-123.126028	45.573493
West Fork Dairy Creek	7	-123.131429	45.579062
West Fork Dairy Creek	8	-123.132763	45.585725
West Fork Dairy Creek	9	-123.137437	45.590126

Umatilla – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
East Birch	7	-118.826735	45.445145
East Birch	8	-118.825617	45.43835
East Birch	9	-118.820894	45.432368
East Birch	10	-118.818677	45.426089
East Birch	11	-118.815367	45.420147
East Birch	12	-118.809903	45.414396
East Birch	13	-118.803304	45.40943
East Birch	14	-118.796206	45.404623
East Birch	15	-118.786622	45.402289
East Birch	16	-118.777074	45.400922
Gerking Creek	6	-118.546676	45.813805
Gerking Creek	7	-118.545088	45.82019
Gerking Creek	8	-118.551118	45.825346
Gerking Creek	9	-118.552585	45.83195
Gerking Creek	10	-118.556749	45.83846
Gerking Creek	11	-118.560424	45.845081
Little Butter Creek	39	-119.270283	45.388363
Little Butter Creek	40	-119.267082	45.381768
Little Butter Creek	41	-119.266309	45.374662
Little Butter Creek	42	-119.26398	45.367984
Little Butter Creek	43	-119.263954	45.361113
Little Butter Creek	44	-119.259757	45.354829
Little Butter Creek	45	-119.255249	45.348909
Little Butter Creek	46	-119.250687	45.343082
Owings Creek	3	-118.947249	45.393138
Owings Creek	4	-118.95592	45.390083
Owings Creek	5	-118.961792	45.384684
Owings Creek	6	-118.961551	45.377571
Owings Creek	7	-118.963306	45.370593
Owings Creek	8	-118.966347	45.363741
Owings Creek	9	-118.968596	45.356716
Owings Creek	10	-118.968466	45.349714
Slusher Creek	13	-119.134288	45.545729
Slusher Creek	14	-119.127755	45.540255
Slusher Creek	15	-119.122758	45.534464
Slusher Creek	16	-119.114076	45.530735
Slusher Creek	17	-119.104729	45.5277
Slusher Creek	18	-119.095877	45.525704
Wildhorse Creek	27	-118.558373	45.769488
Wildhorse Creek	28	-118.554916	45.775538
Wildhorse Creek	29	-118.5502	45.781687
Wildhorse Creek	30	-118.542344	45.785031
Wildhorse Creek	31	-118.534508	45.789608
Wildhorse Creek	32	-118.527856	45.794332
Wildhorse Creek	33	-118.522591	45.79944

Stream Name	Point	Longitude	Latitude
Wildhorse Creek	34	-118.514265	45.801959
Wildhorse Creek	35	-118.50822	45.807199
Wildhorse Creek	36	-118.498957	45.808363
Wildhorse Creek	37	-118.489199	45.808492

Umpqua – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Bennet Creek	1	-123.215423	43.625101
Bennet Creek	2	-123.209225	43.620187
Bennet Creek	3	-123.202833	43.615726
Bennet Creek	4	-123.193321	43.615465
Bennet Creek	5	-123.183588	43.615944
Bennet Creek	6	-123.174231	43.614433
Bennet Creek	7	-123.166746	43.611827
Calapooya Creek	1	-123.45966	43.36554
Calapooya Creek	2	-123.455143	43.362655
Calapooya Creek	3	-123.448225	43.362544
Calapooya Creek	4	-123.448128	43.366841
Calapooya Creek	5	-123.441167	43.361925
Calapooya Creek	6	-123.437755	43.365713
Calapooya Creek	7	-123.430432	43.360907
Calapooya Creek	8	-123.42235	43.362763
Calapooya Creek	9	-123.417294	43.368296
Calapooya Creek	10	-123.40895	43.368151
Calapooya Creek	11	-123.404055	43.371251
Champagne Creek	1	-123.450107	43.262197
Champagne Creek	2	-123.455021	43.256081
Champagne Creek	3	-123.455175	43.249125
Champagne Creek	4	-123.458945	43.245247
Champagne Creek	5	-123.466106	43.243585
Champagne Creek	6	-123.472136	43.23875
Champagne Creek	7	-123.473196	43.231972
Days Creek	1	-123.162024	42.975098
Days Creek	2	-123.154913	42.979656
Days Creek	3	-123.14619	42.981435
Days Creek	4	-123.138058	42.982677
Days Creek	5	-123.129335	42.984308
Days Creek	6	-123.120671	42.984792
Days Creek	7	-123.112307	42.983144
Elgarose Creek	1	-123.482018	43.233464
Elgarose Creek	2	-123.486799	43.238581
Elgarose Creek	3	-123.481799	43.244029
Elgarose Creek	4	-123.485527	43.249808
Elgarose Creek	5	-123.491625	43.254328
Elgarose Creek	6	-123.500322	43.25619
Elgarose Creek	7	-123.505205	43.261428
Flournoy Creek	1	-123.554848	43.18104
Flournoy Creek	2	-123.550076	43.186922
Flournoy Creek	3	-123.54598	43.193098
Flournoy Creek	4	-123.546857	43.199394
Flournoy Creek	5	-123.552405	43.203978
Flournoy Creek	6	-123.55463	43.210227

Stream Name	Point	Longitude	Latitude
Marsters Creek	1	-123.395824	43.169711
Marsters Creek	2	-123.40088	43.165597
Marsters Creek	3	-123.4097	43.163474
Marsters Creek	4	-123.419222	43.163911
Marsters Creek	5	-123.42881	43.165341
Marsters Creek	6	-123.438008	43.164087
Marsters Creek	7	-123.44522	43.16043
Pass Creek	1	-123.267047	43.696943
Pass Creek	2	-123.259174	43.699468
Pass Creek	3	-123.249514	43.699289
Pass Creek	4	-123.243134	43.703677
Pass Creek	5	-123.234644	43.704775
Pass Creek	6	-123.227764	43.70724
Pass Creek	7	-123.220497	43.710744
Pass Creek	8	-123.217696	43.716264
Pass Creek	9	-123.21313	43.720703
Rice Creek	1	-123.417443	43.077636
Rice Creek	2	-123.420521	43.0711
Rice Creek	3	-123.423065	43.064906
Rice Creek	4	-123.429098	43.059626
Rice Creek	5	-123.433259	43.053728
Rice Creek	6	-123.436762	43.047544
Rice Creek	7	-123.440562	43.041168
South Myrtle Creek	1	-123.223873	43.028136
South Myrtle Creek	2	-123.216669	43.025313
South Myrtle Creek	3	-123.20895	43.021751
South Myrtle Creek	4	-123.202643	43.022801
South Myrtle Creek	5	-123.197999	43.026505
South Myrtle Creek	6	-123.19212	43.031672
South Myrtle Creek	7	-123.185579	43.036725
South Myrtle Creek	8	-123.176458	43.035227
South Myrtle Creek	9	-123.16832	43.03376
South Myrtle Creek	10	-123.159635	43.035248
South Myrtle Creek	11	-123.150635	43.033954
Yoncalla Creek	1	-123.297261	43.637974
Yoncalla Creek	2	-123.293934	43.631461
Yoncalla Creek	3	-123.288924	43.625591
Yoncalla Creek	4	-123.286384	43.619168
Yoncalla Creek	5	-123.282608	43.613107
Yoncalla Creek	6	-123.281865	43.606011
Yoncalla Creek	7	-123.277026	43.600372
Yoncalla Creek	8	-123.276098	43.59355
Yoncalla Creek	9	-123.279523	43.586913

Upper Grande Ronde – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Clark Creek	1	-117.911599	45.559034
Clark Creek	2	-117.902986	45.555756
Clark Creek	3	-117.896563	45.551739
Clark Creek	4	-117.887951	45.549346
Clark Creek	5	-117.880298	45.545739
Clark Creek	6	-117.871967	45.542447
Clark Creek	7	-117.865448	45.537288
Clark Creek	8	-117.860747	45.531749
Fir Creek	1	-118.041186	45.501676
Fir Creek	2	-118.048071	45.506522
Fir Creek	3	-118.052253	45.512455
Fir Creek	4	-118.057678	45.51691
Fir Creek	5	-118.066521	45.519971
Fir Creek	6	-118.076192	45.521896
Gordon Creek	1	-117.905948	45.596434
Gordon Creek	2	-117.913667	45.595042
Gordon Creek	3	-117.922517	45.595872
Gordon Creek	4	-117.930563	45.599038
Gordon Creek	5	-117.938723	45.602477
Gordon Creek	6	-117.947105	45.604985
Gordon Creek	7	-117.954293	45.608621
Little Creek	1	-117.918294	45.231722
Little Creek	2	-117.911111	45.229174
Little Creek	3	-117.904221	45.226144
Little Creek	4	-117.895829	45.223585
Little Creek	5	-117.886639	45.221538
Little Creek	6	-117.876721	45.220467
Little Creek	7	-117.866728	45.219288
Little Creek	8	-117.858035	45.217186
Little Creek	9	-117.850478	45.213205
Little Creek	10	-117.843437	45.208993
Little Creek	11	-117.836732	45.204057
Lookingglass Creek	26	-118.034835	45.76482
Lookingglass Creek	27	-118.040872	45.767917
Lookingglass Creek	28	-118.048738	45.771508
Lookingglass Creek	29	-118.057839	45.773738
Lookingglass Creek	30	-118.067358	45.775629
Lookingglass Creek	31	-118.075874	45.778367
Murphy Creek	1	-117.823977	45.30883
Murphy Creek	2	-117.814435	45.309464
Murphy Creek	3	-117.804478	45.310561
Murphy Creek	4	-117.794778	45.31187
Murphy Creek	5	-117.785538	45.314779
Pyles Creek	1	-117.916227	45.219308
Pyles Creek	2	-117.915191	45.217116

Stream Name	Point	Longitude	Latitude
Pyles Creek	3	-117.913235	45.211864
Pyles Creek	4	-117.908983	45.206025
Pyles Creek	5	-117.905355	45.19939
Pyles Creek	6	-117.901949	45.195185
Pyles Creek	7	-117.89171	45.195159
Pyles Creek	8	-117.883853	45.192842
Pyles Creek	9	-117.876099	45.188581

Upper Willamette – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Coyote Creek	1	-123.286953	43.947843
Coyote Creek	2	-123.28215	43.945602
Coyote Creek	3	-123.279793	43.941988
Coyote Creek	4	-123.279477	43.936696
Coyote Creek	5	-123.277924	43.931118
Coyote Creek	6	-123.272898	43.926112
Coyote Creek	7	-123.267667	43.921795
Ferguson Creek	1	-123.28512	44.25142
Ferguson Creek	2	-123.290845	44.245977
Ferguson Creek	3	-123.29969	44.243037
Ferguson Creek	4	-123.309444	44.241886
Ferguson Creek	5	-123.318261	44.239148
Ferguson Creek	6	-123.328024	44.239499
Ferguson Creek	7	-123.336848	44.240284
Ferguson Creek	8	-123.344716	44.243523
Ferguson Creek	9	-123.352417	44.245753
Flat Creek	1	-123.204818	44.196472
Flat Creek	2	-123.197331	44.192701
Flat Creek	3	-123.195295	44.185982
Flat Creek	4	-123.193413	44.179299
Flat Creek	5	-123.186687	44.174564
Flat Creek	6	-123.182321	44.168398
Flat Creek	7	-123.174579	44.164519
Flat Creek	8	-123.170237	44.159728
Flat Creek	9	-123.168391	44.153839
Flat Creek	10	-123.160398	44.149806
Flat Creek	11	-123.155448	44.143621
Fox Hollow Creek	1	-123.24083	43.910578
Fox Hollow Creek	2	-123.237526	43.917264
Fox Hollow Creek	3	-123.23385	43.92386
Fox Hollow Creek	4	-123.231476	43.930786
Fox Hollow Creek	5	-123.227064	43.937172
Fox Hollow Creek	6	-123.217548	43.938289
Fox Hollow Creek	7	-123.207688	43.937514
Poodle Creek	1	-123.456209	44.067372
Poodle Creek	2	-123.450991	44.072513
Poodle Creek	3	-123.449622	44.079064
Poodle Creek	4	-123.452848	44.085115
Poodle Creek	5	-123.45757	44.091202
Poodle Creek	6	-123.465187	44.094669
Poodle Creek	7	-123.473572	44.096148
South Fork Siuslaw River	1	-123.255886	43.817788

Stream Name	Point	Longitude	Latitude
South Fork Siuslaw River	2	-123.250134	43.81556
South Fork Siuslaw River	3	-123.242877	43.811255
South Fork Siuslaw River	4	-123.233192	43.810492
South Fork Siuslaw River	6	-123.228611	43.800457
South Fork Siuslaw River	7	-123.222872	43.796579
Spencer Creek	1	-123.204097	43.986188
Spencer Creek	2	-123.194359	43.986431
Spencer Creek	3	-123.184584	43.987355
Spencer Creek	4	-123.174882	43.987085
Spencer Creek	5	-123.165074	43.987824
Spencer Creek	6	-123.157153	43.991418
Spencer Creek	7	-123.149642	43.995747
Spencer Creek	8	-123.140166	43.994398
Spencer Creek	9	-123.130556	43.993841

Willow Creek – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Hinton Creek	1	-119.490189	45.368768
Hinton Creek	2	-119.480696	45.370196
Hinton Creek	3	-119.470657	45.369802
Hinton Creek	4	-119.460649	45.369879
Hinton Creek	5	-119.450932	45.367871
Hinton Creek	6	-119.441023	45.367516
Hinton Creek	7	-119.43135	45.365811
Hinton Creek	8	-119.421884	45.364089
Hinton Creek	9	-119.412653	45.361109
Rhea Creek	1	-119.72821	45.32607
Rhea Creek	2	-119.721583	45.321377
Rhea Creek	3	-119.717707	45.316251
Rhea Creek	4	-119.715116	45.309598
Rhea Creek	5	-119.710504	45.303824
Rhea Creek	6	-119.710003	45.297347
Rhea Creek	7	-119.709731	45.290535
Rhea Creek	8	-119.705977	45.284166
Rhea Creek	9	-119.705839	45.277544
Willow Creek	1	-119.955276	45.631809
Willow Creek	2	-119.956696	45.624953
Willow Creek	3	-119.958344	45.617953
Willow Creek	4	-119.95427	45.611856
Willow Creek	5	-119.949709	45.605462
Willow Creek	6	-119.943389	45.600407
Willow Creek	7	-119.945297	45.593455
Willow Creek	8	-119.94463	45.5866
Willow Creek	9	-119.942861	45.580106

Yamhill – Monitoring Site Longitude/Latitude

Stream Name	Point	Longitude	Latitude
Baker Creek	1	-123.22201093400	45.23217454340
Baker Creek	2	-123.23080888400	45.23011195020
Baker Creek	3	-123.23815889900	45.22736422900
Baker Creek	4	-123.24739044600	45.22537513310
Baker Creek	5	-123.25662655800	45.22434165750
Baker Creek	6	-123.26613352400	45.22477215340
Baker Creek	7	-123.27427296800	45.22818947150
Baker Creek	8	-123.28393288800	45.22836791320
Baker Creek	9	-123.29108614700	45.22460338400
Berry Creek	1	-123.23518158300	45.22883651020
Berry Creek	2	-123.24207137800	45.23269532970
Berry Creek	3	-123.25052587400	45.23602242890
Berry Creek	4	-123.25958770600	45.23775786050
Berry Creek	5	-123.26569296200	45.24256819130
Dupee Creek	1	-123.36897539200	45.12364031660
Dupee Creek	2	-123.36475447200	45.12976214810
Dupee Creek	3	-123.36489334700	45.13675953240
Dupee Creek	4	-123.36286548900	45.14332722470
Dupee Creek	5	-123.35713351100	45.14914021300
Dupee Creek	6	-123.35364192000	45.15570571710
Dupee Creek	7	-123.35107854300	45.16256161510
Hawn Creek	1	-123.13283613700	45.23947685080
Hawn Creek	2	-123.13996660900	45.24387741510
Hawn Creek	3	-123.14617716100	45.24527736180
Hawn Creek	4	-123.14448450200	45.25065280690
Hawn Creek	5	-123.14176221900	45.25731867790
Hawn Creek	6	-123.14371757100	45.26400808400
Hawn Creek	7	-123.14876614200	45.26921908850
Hawn Creek	8	-123.14895407500	45.27518603010
Hawn Creek	9	-123.15071860900	45.28159363930
Hawn Creek	10	-123.15379759700	45.28799191460
Hawn Creek	11	-123.15051740400	45.29472670700
Millican Creek	1	-123.11924559600	45.24793027630
Millican Creek	2	-123.12136866900	45.25395432600
Millican Creek	3	-123.11974302100	45.26034632070
Millican Creek	4	-123.11308553700	45.26550129070
Millican Creek	5	-123.10571860600	45.26920161940
Millican Creek	6	-123.09897988300	45.27438529790
Millican Creek	7	-123.09591046600	45.28069929470
Millican Creek	8	-123.09116790000	45.28704188060
Millican Creek	9	-123.08447404500	45.29157186570
Panther Creek	1	-123.22746734100	45.26881836060
Panther Creek	2	-123.23385088000	45.27051331490
Panther Creek	3	-123.23840278900	45.27526149490
Panther Creek	4	-123.24320522600	45.27980417310

Stream Name	Point	Longitude	Latitude
Panther Creek	5	-123.25179171300	45.28235971590
Panther Creek	6	-123.25999604100	45.28588384260
Panther Creek	7	-123.26802002500	45.28331214710
Panther Creek	8	-123.27617197300	45.28553585400
Panther Creek	9	-123.28537638800	45.28697687470
Panther Creek	10	-123.29308141900	45.29036495690
Panther Creek	11	-123.30094299500	45.29377962440
Spring Brook	1	-122.92119979000	45.26791979210
Spring Brook	2	-122.92618303800	45.27293775100
Spring Brook	3	-122.93605851700	45.27275948700
Spring Brook	4	-122.94050120000	45.27550088860
Spring Brook	5	-122.93702952200	45.27612413120
Spring Brook	6	-122.93560327500	45.28082208550
Spring Brook	7	-122.93527483300	45.28651827120
Spring Brook	8	-122.94095968600	45.29111216240
Spring Brook	9	-122.93517458400	45.29559200100
Spring Brook	10	-122.93172084800	45.30107213990
Spring Brook	11	-122.92937700500	45.30708026200
Spring Brook	12	-122.92808987400	45.31245975590
Spring Brook	13	-122.93594723200	45.31633777560
Spring Brook	14	-122.94126870300	45.32179001570
Spring Brook	15	-122.94407265300	45.32846420590
Tindle Creek	1	-123.50090603900	45.10860888170
Tindle Creek	2	-123.50690735500	45.11382591700
Tindle Creek	3	-123.51158034500	45.11879981770
Tindle Creek	4	-123.52114430200	45.12001295570
Tindle Creek	5	-123.53117789800	45.11999239570
Tindle Creek	6	-123.54066431100	45.12102428140
Tindle Creek	7	-123.54927665800	45.12447982680
Turner Creek	1	-123.25867790200	45.37141283420
Turner Creek	2	-123.25619346200	45.37738550100
Turner Creek	3	-123.25991970000	45.38358768520
Turner Creek	4	-123.26714818600	45.38830134840
Turner Creek	5	-123.27340551000	45.39282361470
Turner Creek	6	-123.27719620200	45.39921153940
Turner Creek	7	-123.28474752100	45.40363388590
Turner Creek	8	-123.29062602100	45.40892867540
Turner Creek	9	-123.29752910400	45.41395959690
Turner Creek	10	-123.30460855100	45.41908592980
Turner Creek	11	-123.31397186100	45.42191296300
West Fork Salt Creek	1	-123.33482617000	45.00210441660
West Fork Salt Creek	2	-123.34112576000	44.99756593990
West Fork Salt Creek	3	-123.35082824200	44.99670173150
West Fork Salt Creek	4	-123.36036835000	44.99826191420
West Fork Salt Creek	5	-123.36921076500	44.99934811140
West Fork Salt Creek	6	-123.37648323300	44.99530105060
West Fork Salt Creek	7	-123.38350675000	44.99071016440

Stream Name	Point	Longitude	Latitude
West Fork Salt Creek	8	-123.38989378400	44.98541729860
West Fork Salt Creek	9	-123.39563188500	44.97984850970