Fraser Salmon & Watersheds Program

2011/12 FINAL REPORT

FSWP File Number*	07350-35

* Please use the FSWP File Number provided in previous FSWP project correspondence.

1. Project Information

1.1. Project Title

Fishwheel and radio-telemetry components of the "Count on Salmon" to support in-season management of Fraser sockeye and pink salmon and track radio-tags applied as part of an ongoing NSERC research project.

1.2. Proponent's Legal Name

LGL Limited

1.3. Project Location

Fraser watershed

1.4. Contact for this report

Name: Karl English	Phone: 250-656-0127	Email: kenglish@lgl.com

1.5 Funding Amount

Original Approved Grant Amount:	Total FSWP Expenditures:	Final Invoice Amount:	Final Non-FSWP leveraging, including cash and in-kind:
$60,000	$60,000	$18,000	$56,401.15

2. Project Summary

Please provide a single paragraph describing your project, its objectives, and the results. As this summary may be used in program communications, clearly state the issue(s) that were addressed and avoid overly technical descriptions. Maximum 300 words.

This study builds on the understanding and information obtained from recent efforts to sample Fraser salmon in the lower river using fishwheels and assess in-river survival of sockeye and coho using radio-telemetry. The three objectives for the 2011 study were:

1) use fishwheels deployed near Crescent Island to obtain daily estimates of the near-shore species composition (SC) for application to the near-shore Mission hydroacoustic counts during the 6 week period when sockeye and pink salmon co-migrate past the Mission hydroacoustic site;
2) compare the SC information obtained from the fishwheels with SC estimates derived from other PSC monitoring programs; and
3) track, using fixed-station receivers, the 500+ radio-tags that Carleton University and UBC researchers plan to apply to sockeye captured and released from lower Fraser recreational fisheries and coho released First Nation beach seine fisheries that target pink salmon.

The significant reduction in the funding available from DFO and PSF had a major impact on the number of days that the fishwheels could be operated in 2011. The fishwheels were not operated during the first half of August and operations were scaled back to 2-3 days per week during the latter half of August. The majority of the costs associated with the daily fishwheel operations in September were cover by LGL (15K) or revenue from the sale of pink salmon (20K) harvested selectively using the fishwheels.

Daily estimates of near-shore species composition were provided in-season to DFO and PSC for every day that the lower Fraser fishwheels were operated. Tracking data for all radio-tagged sockeye and coho detected at 10 monitoring stations were provide to the UBC and Carleton University researchers that were conducting these studies.

OPTIONAL: **Please give a short statement (up to 100 words) of the most compelling activity or outcome from your project.**

The existing infrastructure associated with two fishwheels and 10 radio-telemetry stations allowed for the collection of important near-shore species composition data and tracking data for radio-tagged sockeye and coho. This project also facilitated the implementation of first integrated stock assessment-selective pink harvesting program conducted by the Tsawwassen and Matsqui First Nations in the lower Fraser River.

3. Final Project Results and Effectiveness

3.1 Please copy THE EXPECTED DELIVERABLES from your detailed proposal and insert into this table. Add additional rows as needed. Then describe the FINAL DELIVERABLES (the tangible end products resulting from this work) associated with each expected Deliverable.

If FINAL DELIVERABLES differ from the original EXPECTED DELIVERABLES, please describe why, and the implications for the project.

EXPECTED DELIVERABLES	FINAL DELIVERABLES
1. Daily in-season estimates of near-shore species composition that can be applied to the Mission hydroacoustic target counts.	Daily estimates of near-shore species composition were provided in-season to DFO and PSC for every day that the lower Fraser fishwheels were operated.
2. Fixed-station tracking data for all radio-tagged sockeye and coho detected at 10 monitoring sites.	Tracking data for all radio-tagged sockeye and coho detected at 10 monitoring stations were provide to the UBC and Carleton University researchers that were conducting these studies.

3. Brief summary report on fishwheel operations and species composition estimates for every day the fishwheels operated in 2011.	This report and the attached summary tables and presentation provide a summary of the fishwheel operations and species composition estimates for every day the fishwheels operated in 2011.
4.	

3.2 Please evaluate the EFFECTIVENESS of your project in achieving Project Objectives, using the specific measures of success identified in your proposal. Please include any notable successes or challenges.

The significant reduction in the funding available from DFO and PSF had a major impact on the number of days that the fishwheels could be operated in 2011. The fishwheels were not operated during the first half of August and operations were scaled back to 2-3 days per week during the latter half of August. The majority of the costs associated with the daily fishwheel operations in September were cover by LGL (15K) or revenue from the sale of pink salmon (20K) harvested selectively using the fishwheels.

All project objectives related to the telemetry components of this project were successfully completed with the transfer of daily fixed-station receiver monitoring data to the university researchers.

3.4 If applicable, please describe project outcomes that relate to one or more of the following strategic approaches (Section 2.1 of RFP; section 8 of detailed proposal template), and include specific examples.

Engagement of First Nations. Please specify who, and in what capacity.	First Nations fisheries personnel were engaged in fishwheel operations, biosampling, and fixed-station receiver maintenance components of the project. Tsawwassen and Matsqui First Nations collaborated in efforts to selectively harvest pink salmon using the Crescent Island fishwheels.
Active partnerships with one or more organizations.	The Matsqui First Nation has been a major partner throughout the development and implementation of the fishwheel component of the project from 2007-2011. UBC and Carleton University field crews assisted with the data downloading process for monitoring stations located near their field operations.
Engagement and participation of diverse and under-represented groups.	This project would not have been possible without the engagement and participation of the Matsqui and Tsawwassen First Nations in fishwheel operations. Commercial, recreational and First Nation fishers assisted the study by reporting tag recoveries for their fisheries. DFO, PSC, PSF and university biologist assisted in study design and various field operations.
Relationship building, as a foundation for sustainable, enduring activities.	Matsqui's leadership council permitted the fishwheels to be operated at one of their traditional fishing locations and supported the use of these fishwheels for selective harvesting initiatives.
Capacity building, including mentorship models, leadership training and skills development.	The 2011 project continued the process of capacity building with the Matsqui First Nation and provide the first opportunity to design and implement a commercial harvesting operation using fishwheels in the lower Fraser River.
Recognition and support of champions and their initiatives.	This project would not have been possible without the support of champions within the PSF and Pacific Salmon Endowment Fund Society. Their vision, guidance and leadership are greatly appreciated.

Opportunities to influence policy and decision making,	The fishwheel component of this project has demonstrated that fishwheels can provide a platform that integrates selective harvesting and stock assessment in the lower Fraser River. The radio-telemetry component of this project has provided the tracking data need to assess the post-release survival of radio-tagged sockeye released from lower Fraser recreational fisheries and coho salmon released from First Nation beach seine fisheries. The results from this study has the potential to influence further management decisions related to recreational and selective First Nation fisheries in the lower Fraser River.

3.5 Please describe how the benefits of this project will be sustained and/or be built upon into the future. What are the planned next steps, or recommendations for further work, if applicable?

The procedures for deploying and operating the fishwheels in the lower Fraser River have been streamlined so they are a cost effective tool for obtaining daily near-shore species composition samples and providing sockeye, Chinook and pink salmon for First Nation FSC or selective commercial in-river fisheries.
The capacity that has been built with commercial fishers, First Nation communities and DFO combined with recent reductions in the costs of radio-tags and fixed-station receivers make future assessment of salmon survival and en-route losses affordable using radio-telemetry technology.

3.6. What are the top three lessons learned from this project that could be useful to communicate to others doing similar work in the Basin?

1. proposals to assess new test fisheries for Fraser sockeye and pink salmon need to be submitted to DFO and the PSC in the fall prior to the study year.
2. If DFO funding is a significant component of the study, contracts or agreements need to be in place prior to the deployment of field equipment.
3. Fishwheel operating costs could be substantially reduced by combining daily monitoring with other activities such as: conducting selective harvests or providing support for other local studies (e.g. lower Fraser recreational surveys, maintenance of fixed-station receivers, mobile tracking of radio-tagged fish, etc.) .

3.7 REQUIRED: Attach all DOCUMENTATION of Final Deliverables, and LIST attachments in Section 8. These may include technical reports, maps, photos, evidence of communications, lists of meeting participants, etc.

4. Outreach and Communications

Please describe how you have communicated project activities and results within local and basin-wide communities, across organizations and/or to decision makers.

Please list and attach copies of (or links to) any communications materials from these efforts that you have not previously submitted.

The study results were summarized in a presentation prepare for the Visions Conference held in October 2011. A brief summary report was prepare for the Tsawwassen-Matsqui selective pink salmon fishery and published in a Tsawwassen First Nation newsletter.

7. DECLARATION

Please complete the following declaration:

I, Karl English, hereby declare that:

1) The information provided in this report, including all attachments is accurate to the best of my knowledge and that I am authorized to sign on behalf of the stated proponent organization;

2) The information contained in the above financial statement submitted by us to PSF, is accurate in all material respects and is net of any GST Input Tax Credit received or receivable by us and that the funds were used exclusively for the project as originally proposed or as formally amended by PSF;

3) Any funds previously paid to the Proponent by the Foundation have been used to fund project expenditures approved by the Foundation and in full compliance with the Regulation on the Use of PSF Grant Funds and Reporting Procedures set out in the Application for Funding submitted by the Proponent to the Foundation;

4) The balance of any funds previously paid to the Proponent which were not used as set out in item 3 have been returned to the Foundation;

5) Any additional funds paid to the Proponent by the Foundation will be used in this manner.

Signature:  Date: 3 March 2012

(Authorized Signatory)

Name: Karl K. English

(Print Name)

8. APPENDICES

LIST all REQUIRED DOCUMENTATION here, and attach at the end of this report. These include:

1. **Documentation of FINAL RESULTS. These may include technical reports, maps, photos, lists of meeting participants, etc. (Section 3).**
2. **Communications and Outreach materials, if applicable (Section 4)**
3. **Letters of Confirmation for non-FSWP contributions (Section 5.2)**

1. PowerPoint Presentation delivered by Michael Staley at 2011 Visions Conference
2. Article published in the December 15, 2011 Tsawwassen First Nations Community Notice news letter
3. Fraser Fishwheels Daily Catch Summary 2011
4.
5.

Article published in Tsawwassen First Nation Community Notice, 15 December 2011

Tsawwassen-Matsqui Selective Pink Salmon Fishery using Fishwheels in the Lower Fraser River

In May 2011, Tsawwassen was informed by DFO that selective fishing methods would be required for TFN to access their share of the commercial total allowable catch (TAC) for Fraser pink salmon. The TFN commercial allocation was projected to be at least 50,000 pink salmon based the TFN 0.78% share of the projected 6,400,000 TAC for Fraser pink salmon. In June 2011, Tsawwassen initiated discussions with the Matsqui First Nation to conduct a joint selective fishery for pink salmon using the fishwheels located in Matsqui territory. Matsqui and Tsawwassen reached an agreement on a joint selective fishing proposal that was submitted to DFO and approved in July 2011. Key elements in this proposal were: 1) successful operation of fishwheels at the proposed site in four previous years; 2) commitment to on-site enumeration of all fish captured and recording fish condition for all salmon released; 3) the project oversight by individuals with extensive experience with fishwheel operations at the proposed site; and 4) evidence from previous studies that survival rates close to 100% for salmon released from fishwheels.

The opportunity to harvest the TFN pink allocation using fishwheels was the result of the combined efforts of the Matsqui First Nation and LGL to design and test these methods in the lower Fraser River from 2007-10. Substantial investments were made by the Pacific Salmon Foundation in 2008 to build the large fishwheel and shoreline abutment needed to maximize catch efficiencies at the most suitable site below Mission. The initial goal for the 2011 selective pink salmon fishery was to capture 25,000-30,000 pink salmon in two weeks near the peak of the pink run. Harvesting was initiated when the hourly capture rate exceeded 200 pinks/hour on Sep. 7th and stopped on Sep. 20 when catch rates dropped below this level. A total of 44,447 pink salmon and 20 sockeye salmon were harvested during this period. All other salmon species were released in excellent condition; including: 63 coho, 42 chinook, 17 steelhead and 1 sturgeon. The fishwheel operations, monitoring and reporting costs in 2011 represented roughly half the landed value of the catch because of the requirements in the license for this selective fishery. Two catch monitors were on-site during all harvesting periods to ensure complete counts and the safe operations of the fishwheels. Two herring skiffs were used to transport the pink salmon from the fishwheels to the landing site 500 meters away on the opposite bank of the river. The net income from the sale of the pink salmon was divided up between the participating parties: Tsawwassen fishers received 60%, Matsqui fisheries received 20% and the remaining 20% was divided equally between Tsawwassen First Nation, Matsqui First Nation and the Pacific Salmon Foundation. This fishery would not have been possible without the previous investments of the Pacific Salmon Foundation and the substantial amount of time contributed by LGL personnel to the fishwheel operations, finding the funding support for fishwheel deployment and obtaining DFO approvals for this selective fishery. As a result of the experience gained in 2011, we have identified several ways that catch monitoring and harvesting costs could be substantially reduced in order to maximize the net income from future selective fisheries conducted using these fishwheels.

Fraser Fishwheels Daily Catch Summary 2011 (phone: 1-866-221-3444)														Data to:			September 21, 2011
Capture Method	Date	Seconds for 3 revs	Rotation Speed (RPM)	Hours Operating	SockeyeAdultCaught	SockeyeAdultRadioTag	SockeyeJackCaught	SockeyeRecaptures	ChinookAdultCaught	ChinookJackCaught	PinkAdultCaught	CohoAdultCaught	CohoJackCaught	SteelheadAdultCaught	ChumAdultCaught	SturgeonCaught	SturgeonPITTagApplied	OtherSpeciesCaught
Large Fishwheel	16/08/2011	135	1.3	5.0	4	0	0	0	0	0	18	0	0	0	0	0	0	2
	17/08/2011	155	1.2	24.0	70	0	0	0	6	4	58	0	0	0	0	1	0	26
	18/08/2011	156	1.2	10.0	136	0	0	0	12	6	50	0	0	0	0	0	0	23
	19/08/2011																	
	20/08/2011																	
	21/08/2011																	
	22/08/2011	151	1.2	14.0	47	0	0	0	1	2	51	0	0	0	0	0	0	17
	23/08/2011	176	1.0	24.0	182	0	0	0	8	6	270	0	0	1	0	0	0	43
	24/08/2011	171	1.1	24.0	63	0	0	0	7	10	201	0	0	0	0	0	0	30
	25/08/2011	165	1.1	12.0	50	0	0	0	5	2	205	0	0	0	0	1	1	36
	26/08/2011																	
	27/08/2011																	
	28/08/2011																	
	29/08/2011																	
	30/08/2011	150	1.2	24.0	64	0	0	0	9	5	256	2	0	0	0	0	0	0
	31/08/2011	201	0.9	24.0	12	0	0	0	6	1	271	2	0	0	0	0	0	0
	01/09/2011	180	1.0	24.0	9	0	0	0	5	2	402	0	0	0	0	0	0	0
	02/09/2011			24.0	0	0	0	0	1	0	806	1	0	0	0	0	0	0
	03/09/2011	154	1.2	24.0	0	0	0	0	1	1	295	0	0	0	0	0	0	0
	04/09/2011			0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	05/09/2011			0.5	0	0	0	0	0	0	81	0	0	0	0	0	0	0
	06/09/2011			0.5	0	0	0	0	0	0	533	0	0	0	0	0	0	0
	07/09/2011			11.0	1	0	0	0	2	0	3077	1	0	0	0	0	0	0
	08/09/2011	196	0.9	15.0	0	0	0	0	0	0	3469	5	0	0	0	0	0	0
	09/09/2011	225	0.8	9.0	2	0	0	0	2	0	3263	2	0	0	0	0	0	0
	10/09/2011	290	0.6	12.0	5	0	0	0	2	0	2831	2	0	0	0	0	0	0
	11/09/2011			11.7	0	0	0	0	0	0	1419	3	0	1	0	0	0	0
	12/09/2011	237	0.8	12.5	0	0	0	0	2	1	1038	3	0	1	0	0	0	0
	13/09/2011	232	0.8	12.3	1	0	0	0	1	1	3041	5	0	3	0	0	0	0
	14/09/2011	258	0.7	8.1	2	0	2	0	0	1	1958	2	0	0	0	0	0	0
	15/09/2011	239	0.8	15.1	0	0	2	0	0	4	3922	3	0	6	0	0	0	0
	16/09/2011	263	0.7	10.3	0	0	0	0	0	2	3450	3	0	1	0	1	0	0
	17/09/2011	308	0.6	13.7	3	0	0	0	0	0	4424	0	0	0	0	0	0	0
	18/09/2011			7.0	0	0	0	0	0	1	3210	3	0	0	0	0	0	0
	19/09/2011	475	0.4	8.3	0	0	0	0	0	4	1560	1	0	1	0	0	0	0
	20/09/2011			12.3	0	0	0	0	0	10	1831	14	7	0	0	0	0	0
	21/09/2011			0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Large FW Total				**392**	**651**	**0**	**4**	**0**	**70**	**63**	**41,990**	**52**	**7**	**14**	**0**	**3**	**1**	**177**

Capture Method	Date	Seconds for 3 revs	Rotation Speed (RPM)	Hours Operating	SockeyeAdultCaught	SockeyeAdultRadioTag	SockeyeJackCaught	SockeyeRecaptures	ChinookAdultCaught	ChinookJackCaught	PinkAdultCaught	CohoAdultCaught	CohoJackCaught	SteelheadAdultCaught	ChumAdultCaught	SturgeonCaught	SturgeonPITTagApplied	OtherSpeciesCaught
Small Fishwheel	16/08/2011	121	1.5	24.0	72	0	2	0	2	3	49	0	0	0	0	0	0	47
	17/08/2011	121	1.5	24.0	11	0	0	0	3	1	16	0	0	0	0	0	0	43
	18/08/2011	118	1.5	10.0	15	0	0	0	1	1	29	0	0	0	0	0	0	19
	19/08/2011																	
	20/08/2011																	
	21/08/2011																	
	22/08/2011	118	1.5	14.0	7	0	0	0	0	0	45	0	0	0	0	0	0	40
	23/08/2011	134	1.3	24.0	33	0	0	0	0	2	59	0	0	0	0	0	0	47
	24/08/2011	138	1.3	24.0	9	0	0	0	0	1	85	0	0	0	0	1	0	53
	25/08/2011	122	1.5	12.0	6	0	0	0	0	0	108	0	0	0	0	0	0	27
	26/08/2011																	
	27/08/2011																	
	28/08/2011																	
	29/08/2011																	
	30/08/2011	114	1.6	24.0	9	0	0	0	1	0	250	2	0	1	0	0	0	0
	31/08/2011	122	1.5	24.0	0	0	0	0	2	1	246	0	0	0	0	0	0	0
	01/09/2011	120	1.5	24.0	0	0	0	0	4	1	481	1	0	1	0	0	0	0
	02/09/2011	183	1.0	24.0	1	0	0	0	0	1	701	0	0	0	0	0	0	0
	03/09/2011	120	1.5	24.0	0	0	0	0	0	0	142	1	0	0	0	0	0	0
	04/09/2011			0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	05/09/2011			0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	06/09/2011			0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	07/09/2011			10.5	2	0	0	0	1	0	550	2	0	0	0	0	0	0
	08/09/2011	150	1.2	13.0	0	0	0	0	0	0	730	0	0	0	0	0	0	0
	09/09/2011	270	0.7	8.5	0	0	0	0	1	0	1098	0	0	0	0	0	0	0
	10/09/2011	241	0.7	12.0	2	0	0	0	0	0	727	2	0	0	0	0	0	0
	11/09/2011			13.0	0	0	0	0	0	0	446	0	0	0	0	0	0	0
	12/09/2011	263	0.7	11.9	0	0	0	0	0	0	250	0	0	2	0	0	0	0
	13/09/2011	200	0.9	9.3	2	0	0	0	1	1	225	0	0	0	0	0	0	0
	14/09/2011	219	0.8	7.7	0	0	1	0	0	0	144	0	0	0	0	0	0	0
	15/09/2011	204	0.9	9.2	0	0	0	0	0	1	360	0	0	0	0	0	0	0
	16/09/2011			9.6	0	0	0	0	0	1	760	1	0	0	0	0	0	0
	17/09/2011	208	0.9	13.9	0	0	0	0	0	0	160	0	0	1	0	0	0	0
	18/09/2011			6.9	0	0	0	0	0	0	302	0	0	1	0	0	0	0
	19/09/2011	265	0.7	7.3	0	0	0	0	0	1	156	0	0	0	0	0	0	0
	20/09/2011	222	0.8	2.6	0	0	0	0	1	0	100	4	0	0	0	0	0	0
	21/09/2011			24.0	0	0	0	0	0	1	61	0	0	0	0	0	0	0
Small FW Total				**411**	**169**	**0**	**3**	**0**	**17**	**16**	**8,280**	**13**	**0**	**6**	**0**	**1**	**0**	**276**
FW Total				**803**	**820**	**0**	**7**	**0**	**87**	**79**	**50,270**	**65**	**7**	**20**	**0**	**4**	**1**	**453**

	Large Fishwheel						Small Fishwheel						Total						Percent					
Date	SO	PK	CO	ST	CN	CNJ	SO	PK	CO	ST	CN	CNJ	SO	PK	CO	ST	CN	CNJ	SO	PK	CO	ST	CN	CNJ
16-Aug	4	18	0	0	0	0	72	49	0	0	2	3	76	67	0	0	2	3	51.4%	45.3%	0.0%	0.0%	1.4%	2.0%
17-Aug	70	58	0	0	6	4	11	16	0	0	3	1	81	74	0	0	9	5	47.9%	43.8%	0.0%	0.0%	5.3%	3.0%
18-Aug	136	50	0	0	12	6	15	29	0	0	1	1	151	79	0	0	13	7	60.4%	31.6%	0.0%	0.0%	5.2%	2.8%
19-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
21-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
22-Aug	47	51	0	0	1	2	7	45	0	0	0	0	54	96	0	0	1	2	35.3%	62.7%	0.0%	0.0%	0.7%	1.3%
23-Aug	182	270	0	1	8	6	33	59	0	0	0	2	215	329	0	1	8	8	38.3%	58.6%	0.0%	0.2%	1.4%	1.4%
24-Aug	63	201	0	0	7	10	9	85	0	0	0	1	72	286	0	0	7	11	19.1%	76.1%	0.0%	0.0%	1.9%	2.9%
25-Aug	50	205	0	0	5	2	6	108	0	0	0	0	56	313	0	0	5	2	14.9%	83.2%	0.0%	0.0%	1.3%	0.5%
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
30-Aug	64	256	2	0	9	5	9	250	2	1	1	0	73	506	4	1	10	5	12.2%	84.5%	0.7%	0.2%	1.7%	0.8%
31-Aug	12	271	2	0	6	1	0	246	0	0	2	1	12	517	2	0	8	2	2.2%	95.6%	0.4%	0.0%	1.5%	0.4%
1-Sep	9	402	0	0	5	2	0	481	1	1	4	1	9	883	1	1	9	3	1.0%	97.5%	0.1%	0.1%	1.0%	0.3%
2-Sep	0	806	1	0	1	0	1	701	0	0	0	1	1	1,507	1	0	1	1	0.1%	99.7%	0.1%	0.0%	0.1%	0.1%
3-Sep	0	295	0	0	1	1	0	142	1	0	0	0	0	437	1	0	1	1	0.0%	99.3%	0.2%	0.0%	0.2%	0.2%
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
5-Sep	0	81	0	0	0	0	0	0	0	0	0	0	0	81	0	0	0	0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
6-Sep	0	533	0	0	0	0	0	0	0	0	0	0	0	533	0	0	0	0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
7-Sep	1	3,077	1	0	2	0	2	550	2	0	1	0	3	3,627	3	0	3	0	0.1%	99.8%	0.1%	0.0%	0.1%	0.0%
8-Sep	0	3,469	5	0	0	0	0	730	0	0	0	0	0	4,199	5	0	0	0	0.0%	99.9%	0.1%	0.0%	0.0%	0.0%
9-Sep	2	3,263	2	0	2	0	0	1,098	0	0	1	0	2	4,361	2	0	3	0	0.0%	99.8%	0.0%	0.0%	0.1%	0.0%
10-Sep	5	2,831	2	0	2	0	2	727	2	0	0	0	7	3,558	4	0	2	0	0.2%	99.6%	0.1%	0.0%	0.1%	0.0%
11-Sep	0	1,419	3	1	0	0	0	446	0	0	0	0	0	1,865	3	1	0	0	0.0%	99.8%	0.2%	0.1%	0.0%	0.0%
12-Sep	0	1,038	3	1	2	1	0	250	0	2	0	0	0	1,288	3	3	2	1	0.0%	99.3%	0.2%	0.2%	0.2%	0.1%
13-Sep	1	3,041	5	3	1	1	2	225	0	0	1	1	3	3,266	5	3	2	2	0.1%	99.5%	0.2%	0.1%	0.1%	0.1%
14-Sep	2	1,958	2	0	0	1	0	144	0	0	0	0	2	2,102	2	0	0	1	0.1%	99.8%	0.1%	0.0%	0.0%	0.0%
15-Sep	0	3,922	3	6	0	4	0	360	0	0	0	1	0	4,282	3	6	0	5	0.0%	99.7%	0.1%	0.1%	0.0%	0.1%
16-Sep	0	3,450	3	1	0	2	0	760	1	0	0	1	0	4,210	4	1	0	3	0.0%	99.8%	0.1%	0.0%	0.0%	0.1%
17-Sep	3	4,424	0	0	0	0	0	160	0	1	0	0	3	4,584	0	1	0	0	0.1%	99.9%	0.0%	0.0%	0.0%	0.0%
18-Sep	0	3,210	3	0	0	1	0	302	0	1	0	0	0	3,512	3	1	0	1	0.0%	99.9%	0.1%	0.0%	0.0%	0.0%
19-Sep	0	1,560	1	1	0	4	0	156	0	0	0	1	0	1,716	1	1	0	5	0.0%	99.6%	0.1%	0.1%	0.0%	0.3%
20-Sep	0	1,831	14	0	0	10	0	100	4	0	1	0	0	1,931	18	0	1	10	0.0%	98.5%	0.9%	0.0%	0.1%	0.5%
21-Sep	0	0	0	0	0	0	0	61	0	0	0	1	0	61	0	0	0	1	0.0%	98.4%	0.0%	0.0%	0.0%	1.6%
Total	651	41,990	52	14	70	63	169	8,280	13	6	17	16	820	50,270	65	20	87	79	1.6%	97.9%	0.1%	0.0%	0.2%	0.2%