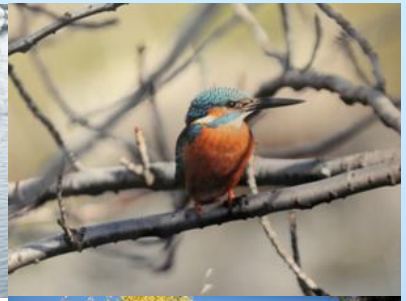


Horikawa Sen-nin Chosatai 2010
Summary meeting for the 14th stage

The Secretariat of Horikawa Sen-nin Chosatai

Feb. 15th 2014

Photos : Goryosui-ato-gaien-aigokai Survey Group
Kawasemi Survey Group

Water Environment of Horikawa River

Area of basin：51.9km²
Length：16.2km

The source of water used by us is Kiso River

Change in temperature, precipitation and time of daylight

Cause of breeding of phytoplankton, nitorogen and phosphorus are included in wastewater from houses, factories and stores.

The primary cause of water pollution is wastewater from houses, factories and stores.

Wastewater is discharged after treatment in water treatment center.

In heavy rain, wastewater is discharged without treatment.

Shonai River
provisional raw water transmission 0.3m³/s

Water treatment center

Sanage Bridge

Motoiri Sluiceway

Tide Gate

▼high tide

Horikawa

▼ebb tide

Difference of water level is more than 2m between high tide and ebb tide.

Water level, direction of current and velocity are changed by tide.

Nagoya Port

Ise Bay

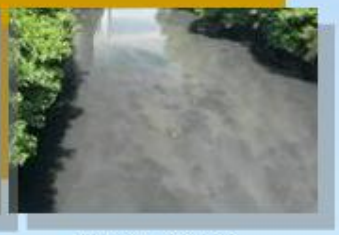
rasing

ground water etc.

It has looked like red tide or blue tide.
In Nagoya Port and downstream of Horikawa, it is said that phytoplankton does over breeding and extinction, so water basin is polluted.

Suldge has floated and raised.

floating sludge



raised sludge

Number of Participants of Horikawa Sen-nin Chosatai 2010

(**Horikawa Sen-nin Chosatai started accepting participation on 26th Mar. 2007**)

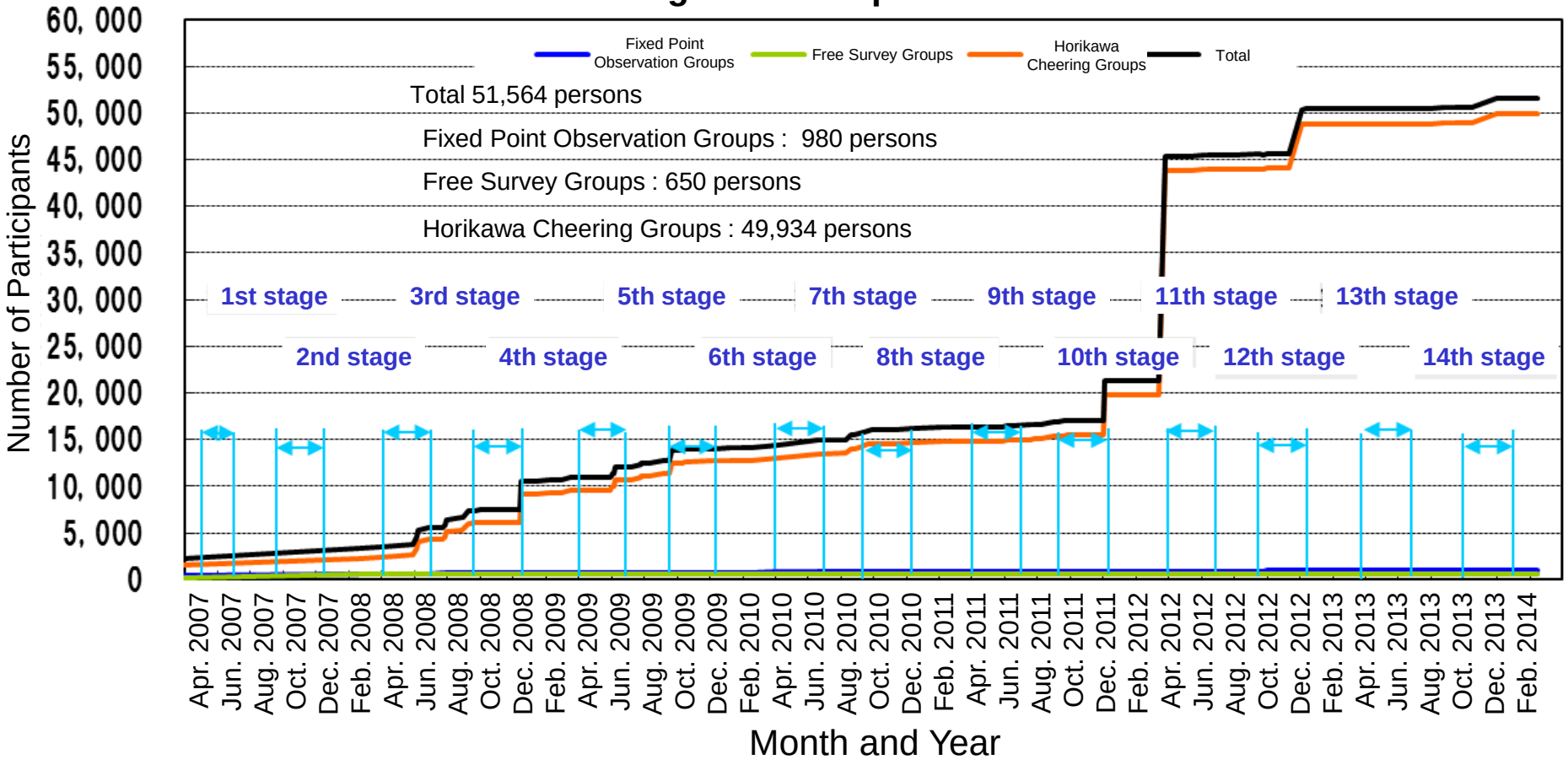
	Start 22nd Apr. 2007	Now 15th Feb. 2014
Fixed Point Observation Groups	55 groups 497 persons	95 groups 980 persons
Free Survey Groups	22 groups 234 persons	40 groups 650 persons
Horikawa Cheering Groups	88 groups 1,531 persons	2,514 groups 49,934 persons
Total	165 groups 2,262 persons	2,649 groups 51,564 persons

Investigation spots

Network of citizens who make a wish for clarification and restoration of the Horikawa River has grown

Number of Participants of Horikawa Sen-nin Chosatai

Change in Participants



Survey Period and Number of Reports of Survey Results

Survey Period			Number of Reports
With TRWKR	1st stage	Spring - Early Summer/ Apr. 22nd - Jun. 30th. 2007	258
	interval	Jul. 1st - Sep. 7th. 2007	134
	2nd stage	Autumn - Early Winter/ Sep. 8th - Dec. 16th. 2007	383
	interval	Dec. 17 - Mar. 31st. 2007	103
	3rd stage	Spring - Early Summer/ Apr. 1st - Jun. 30th. 2008	245
	interval	Jul. 1st - Sep. 27th. 2008	64
	4th stage	Autumn - Early Winter/ Sep. 28 - Dec. 16th. 2008	152
	interval	Dec. 17th - Mar. 31st. 2009	100
	5th stage	Spring - Early Summer/ Apr.1st - Jun. 30th. 2009	145
	interval	Jul. 1st - Sep. 26th. 2009	54
	6th stage	Autumn - Early Winter/ Sep. 27th - Dec. 16th. 2009	120
	interval	Sep.17th.2009 - Mar. 31st. 2010	81
Introduction of advanced water treatment at the Meijo Water Treatment Center In-service of Horikawa Ugan Rain-water Reservoir for pollution control Utilization of reclaimed wastewater from Moriyama Water Treatment Center from Apr. to Oct.	7th stage	Spring - Early Summer/ Apr. 1th - Jun. 30th. 2010	111
	interval	Jul.1st - Sep.11th. 2010	44
	8th stage	Autumn - Early Winter/ Sep. 12th - Dec.17th. 2010	104
	interval	Dec.18th 2010 - Mar. 31st. 2011	72
	9th stage	Spring - Early Summer/ Apr.1st - Jun. 30th. 2011	112
	interval	Jul.1st - Sep.10th. 2011	42
	10th stage	Autumn - Early Winter/ Sep.11th - Dec.16th. 2011	133
	interval	Dec.17th 2011 - Mar. 31st 2012	77
	11th stage	Spring - Early Summer/ Apr. 1st - Jun. 30th. 2012	148
	interval	Jul.1st - Sep. 21st. 2012	60
	12th stage	Autumn - Early Winter/ Sep.22nd - Dec.16th. 2011	139
	interval	Dec.17th 2012 - Mar.31st. 2013	92
	13th stage	Spring - Early Summer/ Apr.1st - Jun.30th. 2013	145
	interval	Jul. 1st - Sep. 28th. 2013	70
	14th stage	Spring - Early Summer/ Sep. 29th - Dec. 17th. 2013	113
Total			3,301

Column “To clarify and restore Horikawa River”

Horikawa Sen-nin Chosatai 2010, which is composed of Fixed Point Observation Groups, Free Survey Groups and Horikawa Cheering Groups, made a start as a place for citizens’ activities to clarify and restore Horikawa River on April 22nd, 2007.

Fixed Point Observation Groups survey clarification effect of Horikawa by Transmission of Raw Water from the Kiso River (TRWKR) with a view point and sense of citizens. Free Survey Groups research Horikawa by free theme. Horikawa Cheering Groups support clarification and restoration of Horikawa. These three kinds of groups cooperate each other in the big network for clarification and restoration of Horikawa.

There are 95 Fixed Point Observation Groups, 40 Free Survey Groups and 2,514 Horikawa Cheering Groups, the total is 2,649 groups and 51,564 persons as of Feb.15, 2014.

Compared with the number of groups and participants, 165 groups and 2,262 persons, at the start, network of people who wish clarification and restoration of Horikawa has developed.

Fixed Point Observation Groups have made surveys at 3,301 times from 1st stage to 14th stage.
Those surveys show that the situation in the area of the downstream from Sanage Bridge variously changes as the tide rises and falls from hour to hour in Horikawa basin.
We learned that various surveys at various time, place and tidal situation enable us to understand average and change of water quality in Horikawa.
And it was confirmed that water quality was improved roughly between Sanage Bridge and Matsushige Bridge for five years of pilot project.
It was also confirmed that artificial garbage was reduced during this period.
So it is supposed that citizens’ awareness has changed for example cleaning activities are held a lot.

～Pilot project for clarification of Horikawa
“Clarification effect by TRWKR from April 2007 to March 2012 was confirmed”～
【Summary】
■Clarification effect by TRWKR was confirmed between Sanage Bridge and Matsushige Bridge
■Network of citizens who make a wish for clarification and restoration of Horikawa has grown
■Awareness of clarification of Horikawa advanced

■ Summary of 14th stage （Autumn - Early winter, 2013）

As for the weather of the 14th stage, the day (the record of a tropical day and a summer day was broken) high-temperature continued till the middle of October. On the other hand, temperature became low rather than normal under the influence of the cold air mass in November and afterwards. Moreover, much rain fell because of a low pressure, a front and a typhoon. Especially on September 4th, it rained heavily, 100 mm or more per hour, at some points in Nagoya including Horikawa's valley and refuge preparation information was taken out to the whole region in Nagoya. The level of Horikawa became so high that it had not been observed by investigating group activity.

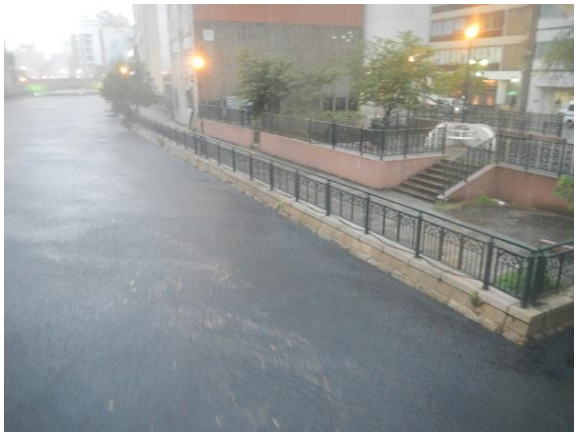




Photo : .Kawasemi Investigation Group
Nishiki Bridge 4th Sep, 2013

There was the rainy day like September 4, but the daylight hours in September was long because there were many fine day. In October, it was short because of much cloudy weather under the influence of a low pressure and a front. In November and December, it was approximately the same level as annual.

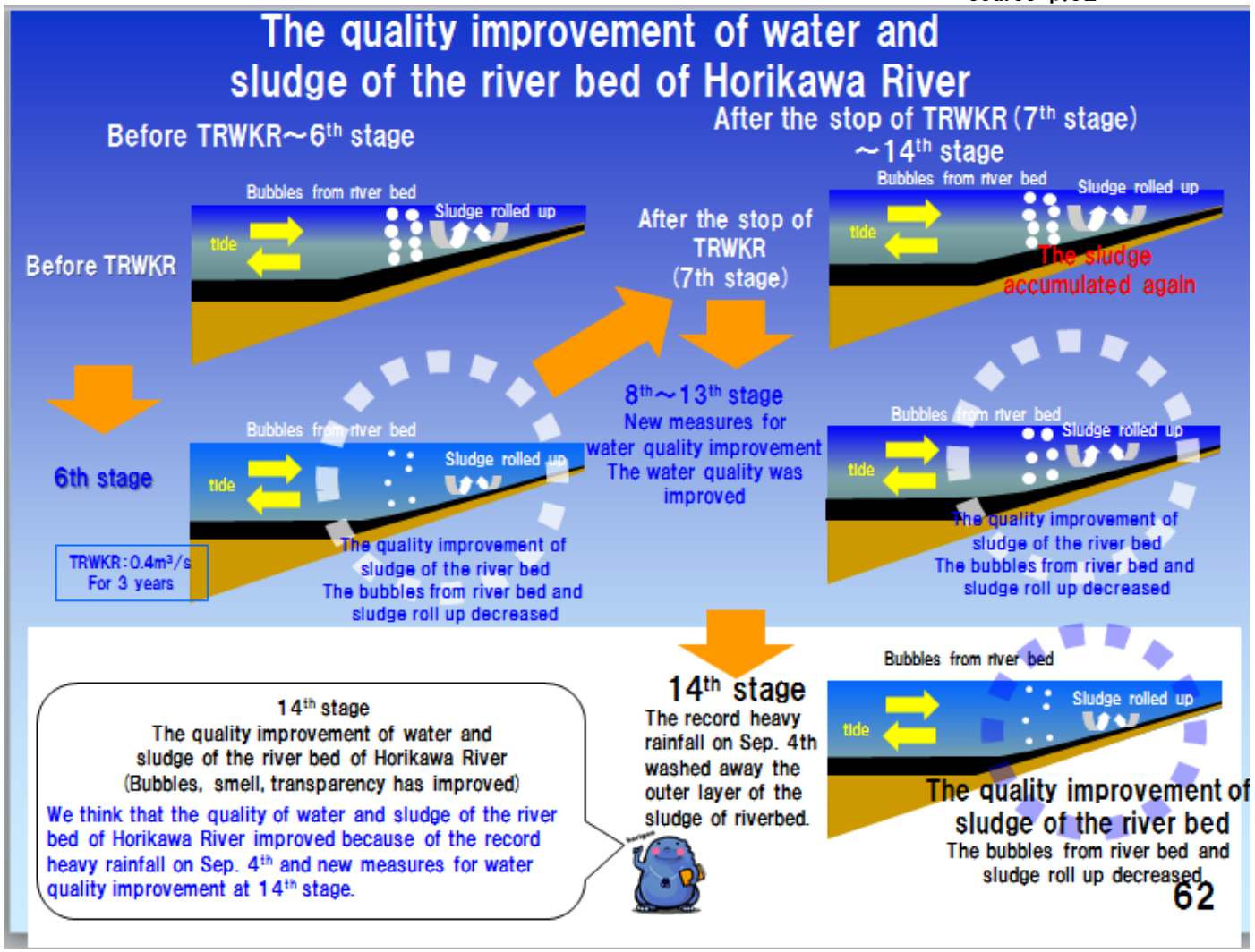
Result of survey in 14th stage, from Sanage Bridge to Minatoshin Bridge, are as follows. Impression of clearness is better broadly than 12th stage's, but is worse slightly than 10th stage's. (12th stage is a same season in 2013, blue and red tide occurred. 10th stage is a same season in 2012.) 60 percent of impression of clearness was estimated by color, and dark color increased.

Contents that changed remarkably in 14th stage were bubble, smell and color. Especially, there is no report that bubble rose from bottom, and that smell was terrible. We think that improvement of bubble rising from bottom and smell is involved with a state of sludge on bottom of Horikawa.

We think concretely, in 14th stage, an outflow of surface sludge by freshet of Horikawa (ex. record fast rain on Sep. 4th) and new water quality improvement measure after the stop of TRWKR made the bottom better temporarily and the condition has been kept. This improvement of bubble and smell is similar to those of 3rd year of TRWKR.

In 14th stage, the condition of the bottom improved temporarily. So we got knowledge to think realistically of condition of bubble and smell when bottom of Horikawa improves.

source:p.62

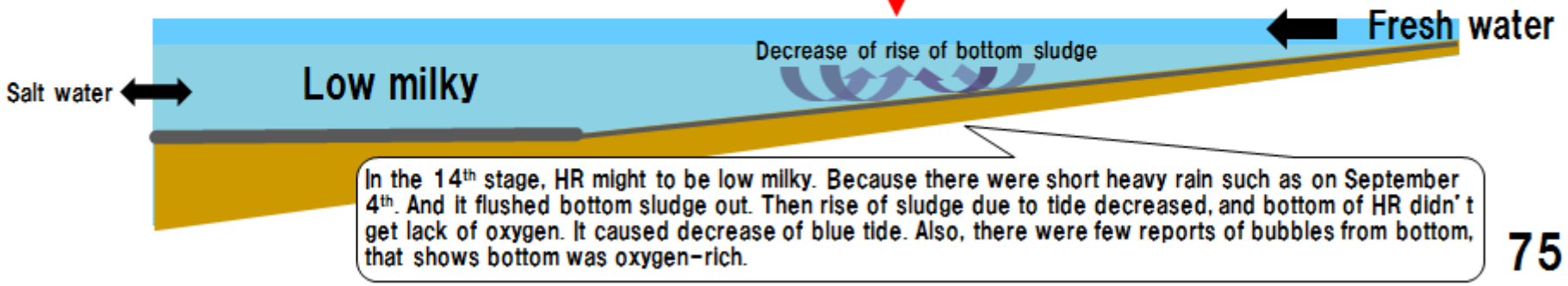


In 14th stage, about 60 percent of impression of clearness was estimated by color, and dark color was often reported.

We think that cloud of water improved with decreasing rising of sludge and dark gray sludge on the bottom effected the water color when we observed. We think that we need to gather knowledge of relation between the water color and the bottom color from now on.

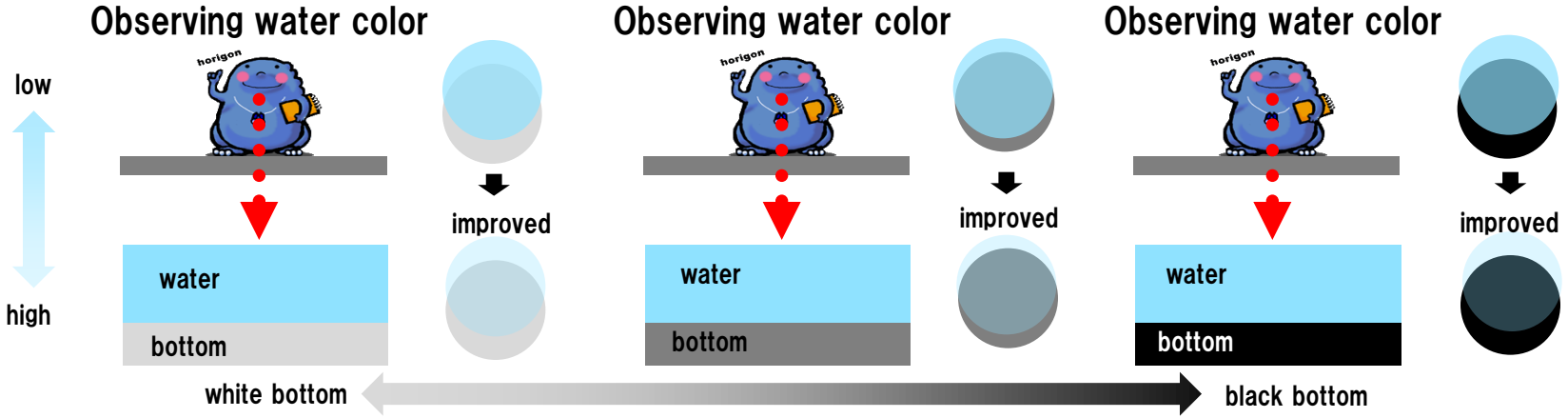
source:this report p.75

Reason of increasing dark color in 14th stage



75

Change of impression on color of bottom and cleanness?



15

Causation is not clearly, but as if supporting improvement of water and bottom quality of Horikawa, many mullet swam up to end of upstream on tidal area. But there was no report about seeing many swimming mullet at midstream, Naya or Nishiki Bridge. A group of mullet was seen at Nishiki Bridge in November, but it was not a large quantity. We think the water and the bottom quality were good so mullet moved at not surface but middle or bottom. So we suppose that the water and the bottom quality were good including midstream, around Naya or Nishiki Bridge.

Many mullet swam up to end of upstream on tidal area

Jan. 18th 2014 Johoku Bridge～Kinjo Bridge

report/photo by
Goyousui-ato-gaien-aigokai Survey Group/Secretariat

Jan. 24th 2014 Sanage Bridge
Provisional raw water transmission from Shonai River resumed.
Reviving mullet.

Jan. 23rd 2014
Shiga Bridge – Kurokawa Bridge
They treaded water.
Dozens of mullet were dead.

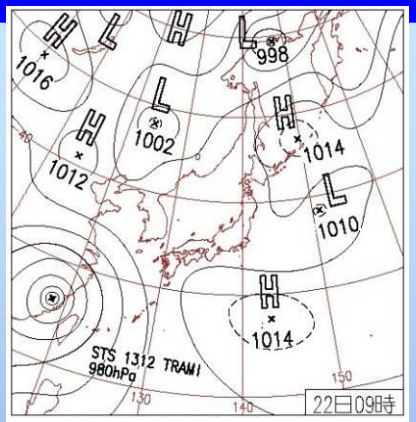
Provisional raw water transmission from Shonai River suspended.

Weather conspectus

Data : Japan Meteorological Agency Data of meteorological statistics Nagoya Local Meteorological Observatory
http://www.jma.go.jp/jma/menu/report.html

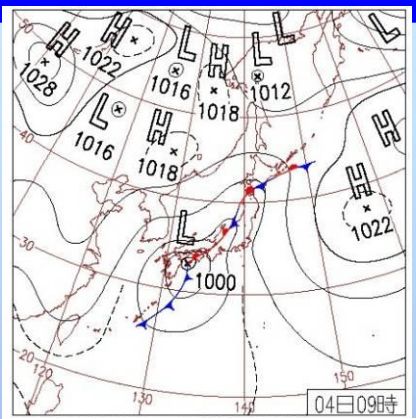
14th stage
Sep.29th~Dec.17th 2013

The heat wave extended in August.



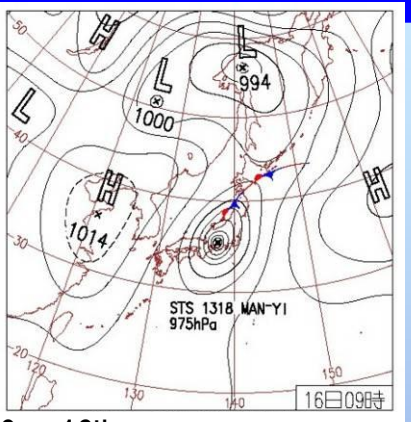
Aug. 22nd
It was fair and hot. The temperature was over 35℃ in the west Japan or the central Japan

Sep. 4th It rained over 100mm a hour.



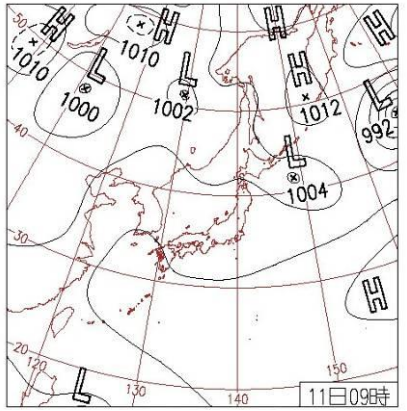
Sep. 4th
Typhoon No.17 changed to tropical atmospheric pressure. Because of this cyclone and a front, It was heavy rain in the west Japan.

Sep. 16th Typhoon No.18 The rainfall was 101mm.



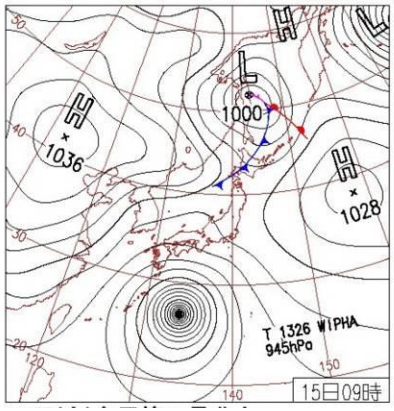
Sep. 16th
The special warning against heavy rain was published for the first time. Typhoon No.18 hit Japan.

In October the record for high temperature was broken.

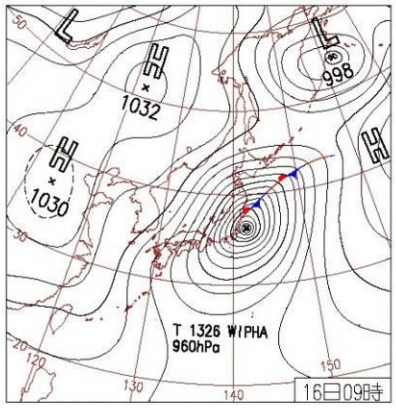


Nov. 13th
It held hot everywhere. The record for high temperature was broken in many points.

Oct. 15th-16th Typhoon No.26 The rainfall was 113.5mm.

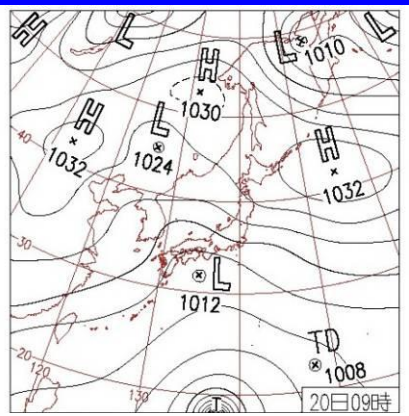


Oct. 15th
Typhoon No.26 went up north. It rained from dawn, and rain became heavier in the afternoon.



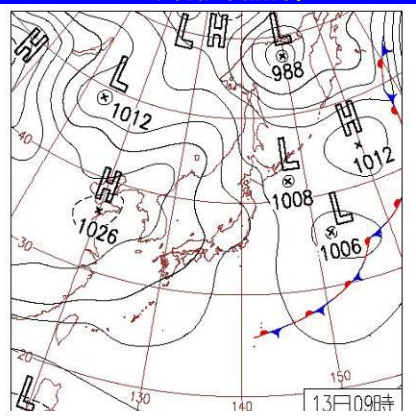
Oct. 16th
Because of Typhoon and stationary front, it was record heavy rain.

Oct. 20th The rainfall was 83mm for a front.



Oct. 20th
It rained in almost all Japan. The rainfall was over 100mm a day in some points.

November Cold came.



Nov. 13th Cold air came and condition of pressure was about winter, so it was snowy or rainy in the north Japan. It was cold or cool in the whole Japan.

Weather Condition

The number of typhoons in 2013 was 31 and larger than in an average year (25.6). Three of them was approaching Tokai area. Typhoons brought about terrible weather. Especially, when typhoon No.18 and No.26 were approached, each of total rainfall was over 100mm. Additionally, daily rainfall of October 20 was over 80mm.

It rained over 100mm per hour in the several spots of Nagoya, and large areas were flooded. Because of this heavy rain and flood, Nagoya city announced the evacuation order officially .

September 4 2013_Tenma bridge Shooting:Kawasemi investigative team

Trend of the weather in the 14th stage (2013)

■Temperature

・Extremely hot days continued from summer before the 14th stage, and the record of the maximum temperature in October was revised. Therefore, temperatures of September and October were higher than the average. On the other hand, after November, the temperature was lower than the average because of the cold air mass caused by the high pressure extended from Eurasia. The monthly average temperature in this stage was sort of higher than the average.

■Precipitation

・It rained a lot because of a front and the typhoon. Therefore, rainfalls of September, October and December were more than the average. On the other hand, the precipitation of November was less than the average because of the high pressure extended from Eurasia. The monthly average rainfall of this stage was more than the average and almost the same as the 10th stage.

■Hours of sunlight

・Hours of sunlight from August to September was long, because Pacific high pressure was extended and fine days increased. Hours of sunlight in October was short, because cloudy days increased, it was influenced by low pressure and a front and so on. From November to December, hours of sunlight was almost the same as the average. Monthly average hours of sunlight in this stage was almost the same as the average.

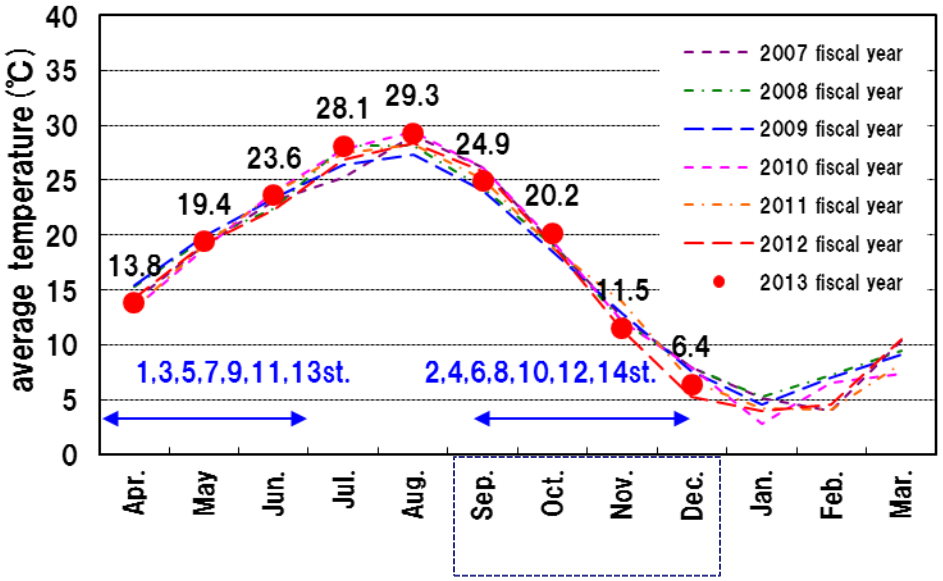
Nagoya Local Meteorological Agency: average value

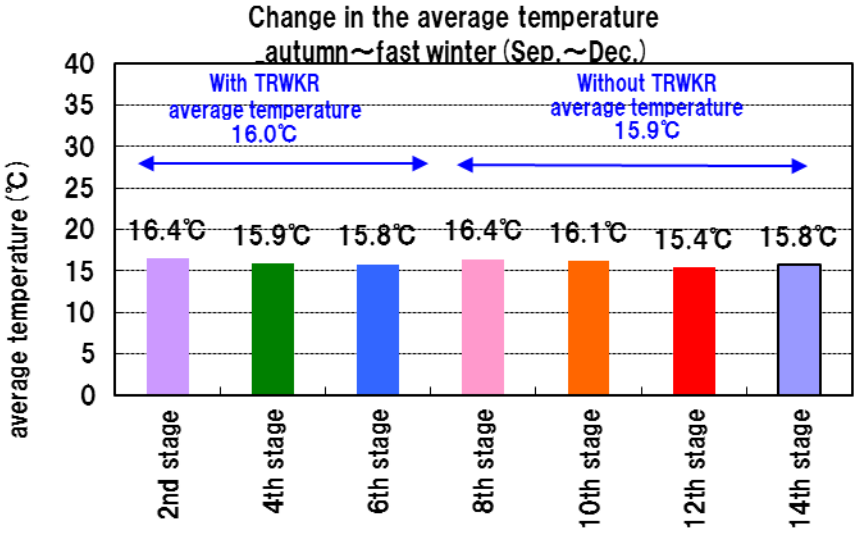
section	total rainfall (mm)	temperature (℃)			total hours of sunlight
		average	max	minimum	
Statistics data period	1981 –2010	1981 –2010	1981 –2010	1981 –2010	1981 –2010
Years of data	30	30	30	30	30
April	143.3	14.1	19.5	9.2	188.4
May	155.7	18.5	23.7	14	199.6
June	201.5	22.3	26.7	18.7	145.2
average	166.8	18.3	23.3	14	177.7
September	249.8	23.4	28	20	141.9
October	116.9	17.6	22.4	13.5	165.6
November	79.5	11.9	16.7	7.6	159.7
December	36.8	6.7	11.4	2.6	169.7
average	120.8	14.9	19.6	10.9	159.2

Japan Meteorological Agency, weather statistics information at Nagoya Local Meteorological Agency
http://www.jma.go.jp/jma/menu/report.html

Weather Condition

Japan Meteorological Agency, weather statistics information at Nagoya Local Meteorological Agency
http://www.jma.go.jp/jma/menu/report.html



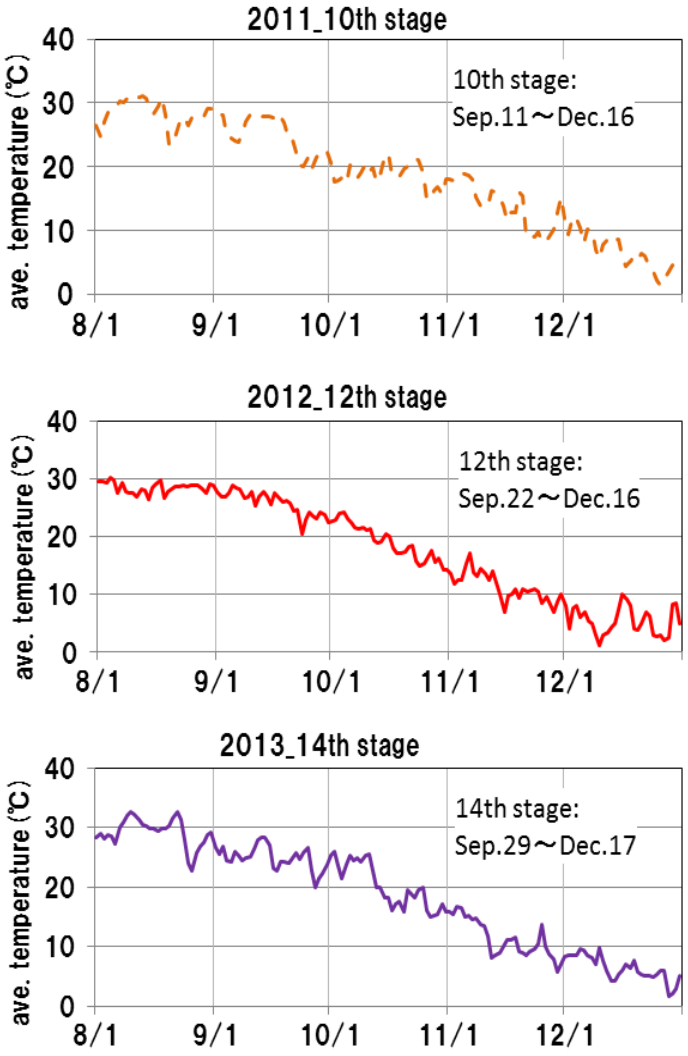


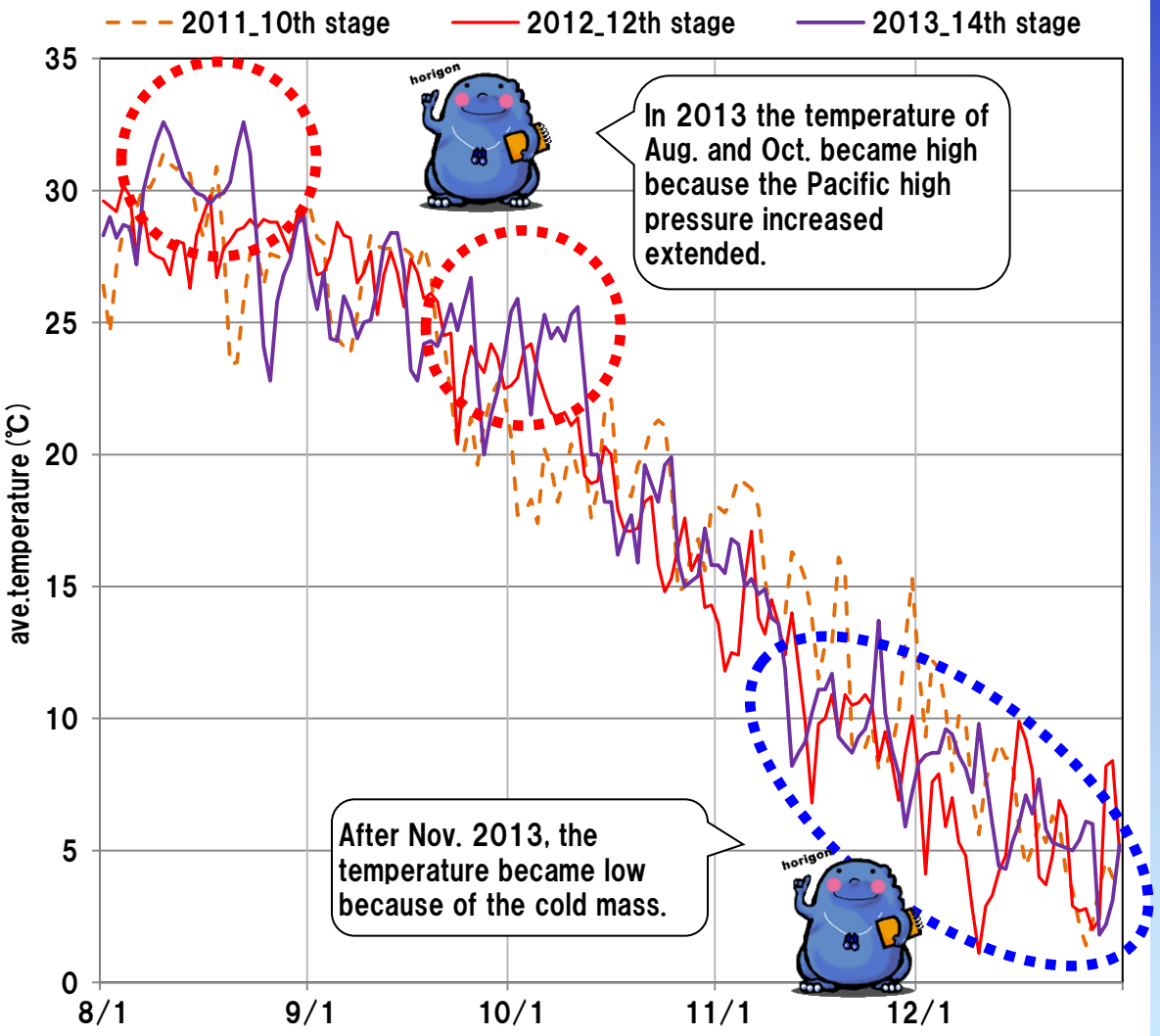
Extremely hot days continued from summer before the 14th stage, and the record of the maximum temperature in October monthly mean was revised. Therefore, temperatures of September and October were higher than the average. On the other hand, after November, the temperature was lower than the average because of the cold air mass caused by the high pressure extended from Eurasia continent. The monthly average temperature in this stage was sort of higher than the average.

Weather Condition

Change in the temperature

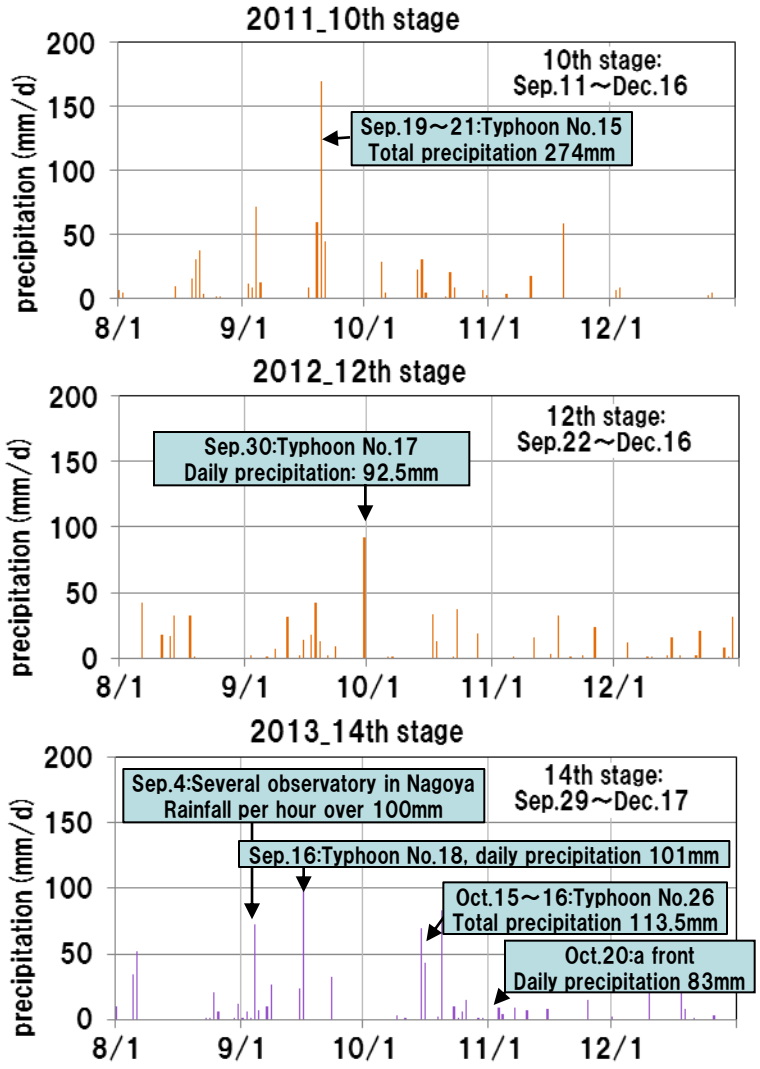
Japan Meteorological Agency, weather statistics information at Nagoya Local Meteorological Agency
http://www.jma.go.jp/jma/menu/report.html

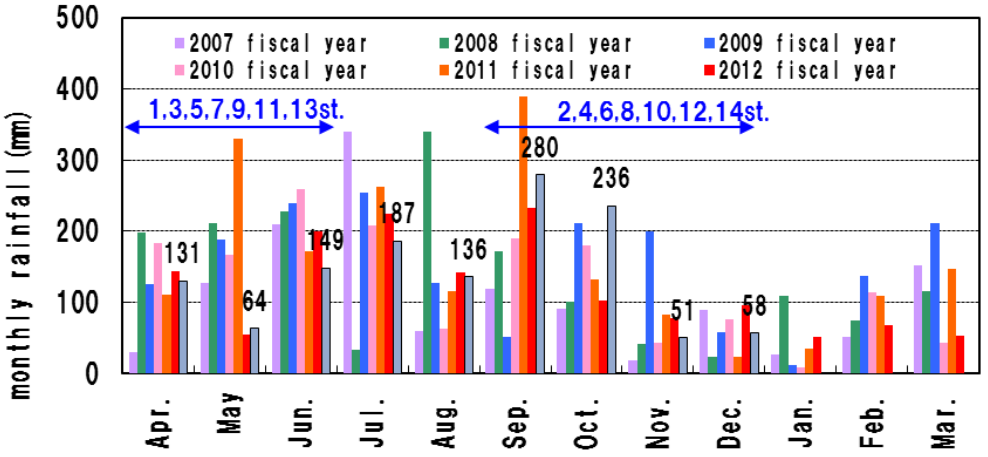


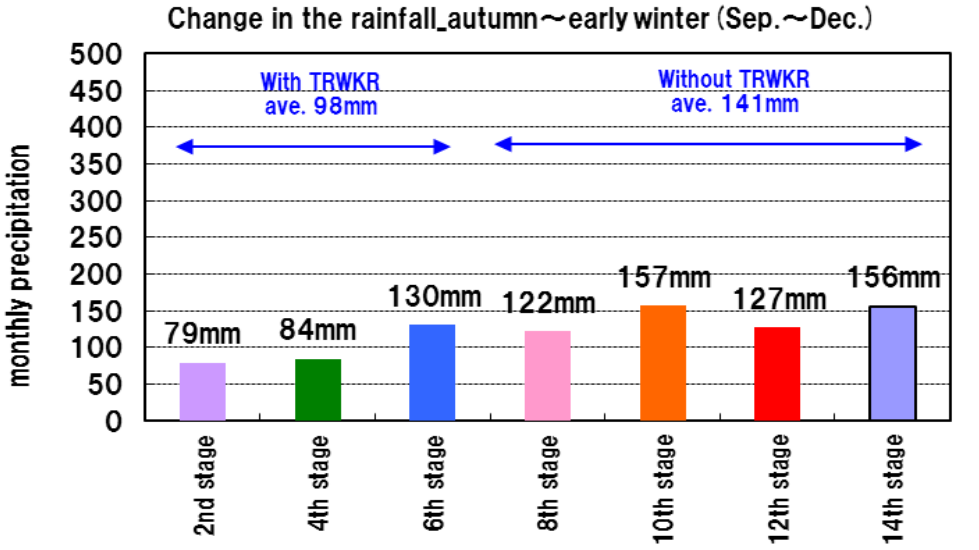


Change in the precipitation

Japan Meteorological Agency, weather statistics information at Nagoya Local Meteorological Agency
http://www.jma.go.jp/jma/menu/report.html



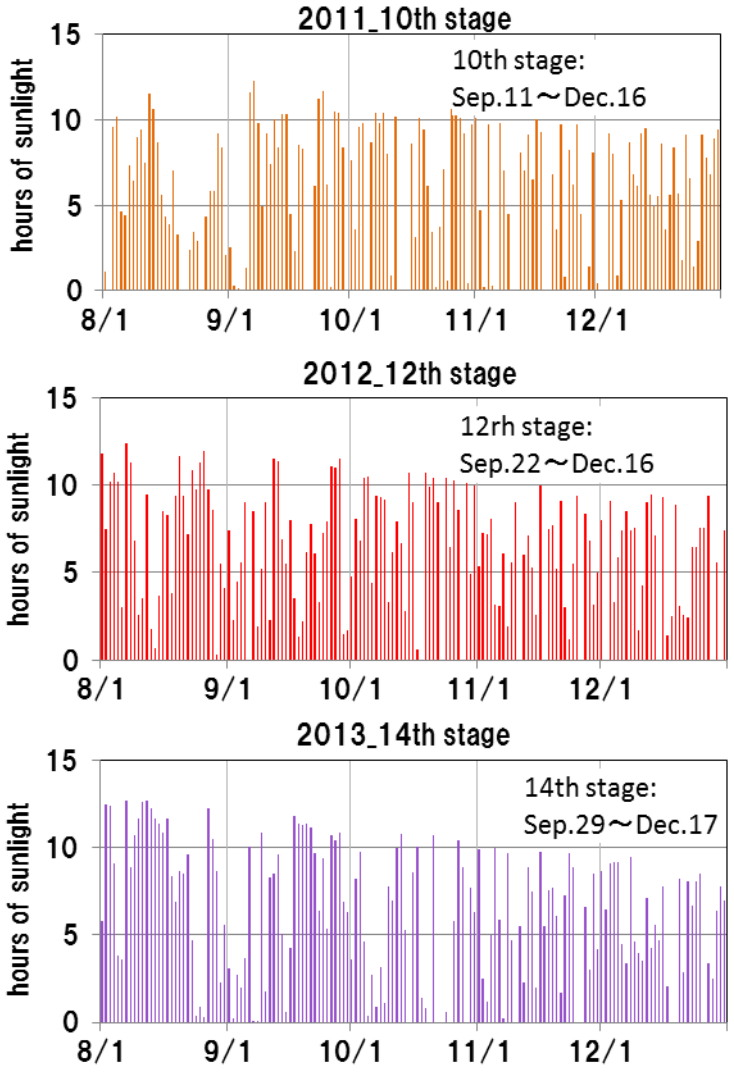


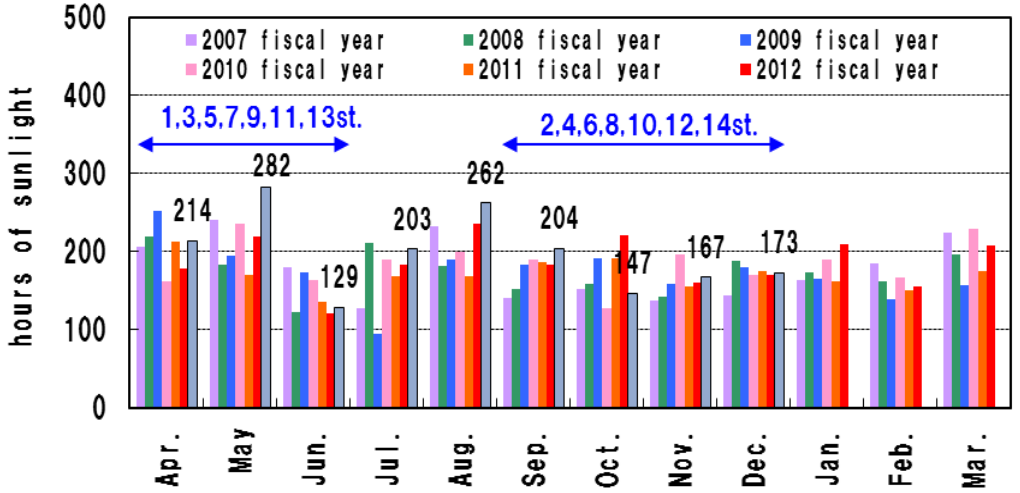


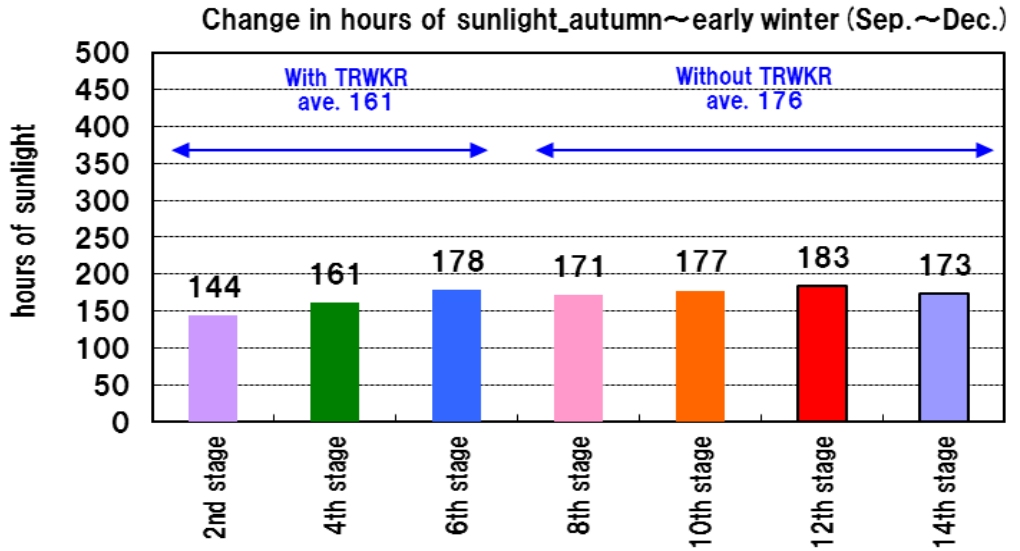
In the 14th stage, it rained a lot because of a front and the typhoon. Therefore, precipitation of September, October and December was more than the average. On the other hand, the precipitation of November was less than the average because of the high pressure in Eurasia. The monthly average precipitation of this stage was more than the average and almost the same as the 10th stage.

Change in hours of sunlight

Japan Meteorological Agency, weather statistics information at Nagoya Local Meteorological Agency
http://www.jma.go.jp/jma/menu/report.html







Hours of sunlight from August to September was longer because Pacific high pressure was extended and fine days increased. Hours of sunlight in October was short because cloudy days increased, it was influenced by low pressure and a front and so on. From November to December, hours of sunlight was almost the same as the average. Monthly average hours of sunlight in this stage was almost the same as the average.

1. Impression of Water Cleanness

堀川1000人調査隊2010　記録表

ver.2.1

①調査隊名　　②調査地点　　橋　付近

③調査日時　平成　年　月　日（調査開始：午前・午後　時　分）

④天　候　前日　　当日

⑤川の流れの方向（○で囲んでください）　⑥風の方向（○で囲んでください）

下流←上流　流れ無し　下流→上流　　下流←上流　風無し　下流→上流　横から

○堀川のようすについて、各項目の該当する番号に○を付け、気づいた点、感じた点などがありましたら、天候、潮の流れなどの状況も踏まえて、コメント欄に記入してください。

1.　水の汚れ

(1)　水の汚れに対する印象を5段階で評価してください。

きたない ① ／ やや きたない ② ／ どちらともいえない ③ ／ やや きれい ④ ／ きれい ⑤

(2)水の汚れの印象を評価した主となる項目を1つ選んで○をつけてください。

①色　②におい　③透明感　④ごみ　⑤あわ　⑥生き物の様子　⑦その他（　　）

コメント

2. 水の色

似ている水の色に○をつけてください。また、その色の印象を5段階で評価してください。

(1)似ている水の色に○をつけてください。

①無色		⑥灰色		⑪濃灰色	
②乳白色		⑦黄灰色		⑫淡黄灰色	
③黄色		⑧淡灰黄緑色		⑬黄褐色	
④黄緑色		⑨灰黄緑色		⑭褐色	
⑤緑色		⑩灰緑色		⑮緑褐色	

参考：水質環境目標値市民モニタリング調査マニュアル、平成18年度版、名古屋市環境局

(2)(1)で答えられた色の印象を5段階で評価し、該当する項目に○をつけてください。

不快 ① ／ やや不快 ② ／ どちらともいえない ③ ／ やや快適 ④ ／ 快適 ⑤

3. 水の臭い

水の臭いの強さと印象を5段階で評価して、臭いの種類を記入してください。

(1)水辺に立ったときの臭いですか。汲んだ水を直接嗅いだ臭いですか。該当する項目に○をつけてください。

①水辺に立った時の臭い　②汲んだ水を直接嗅いだ臭い

(2)水の臭いの強さを5段階で評価して、該当する項目に○をつけてください。

ひどくにおう ① ／ ややひどくにおう ② ／ におう ③ ／ ややにおう ④ ／ におわない ⑤

(3)(2)で答えられた臭いの印象を5段階で評価し、該当する項目に○をつけてください。

不快 ① ／ やや不快 ② ／ どちらともいえない ③ ／ やや快適 ④ ／ 快適 ⑤

(4)どのような臭いですか。(1)で臭う（①～④）と答えられた方のみ記入してください。（複数可）

①どぶの臭い　②ヘドロの臭い　③卵の腐った臭い　④パルプの臭い　⑤磯の臭い　⑥その他（　　）

コメント

4. COD値　　COD調査有の調査隊のみ

測定値を記入してください。

ver.2.1

COD　　mg／L

コメント

5. 水の透視度 透視度調査有の調査隊のみ

透視度計で透視度を3回測定して、測定値および平均値を記入してください。

項目	1回目	2回目	3回目	平均
透視度	cm	cm	cm	cm

コメント

6. ごみの状況

(1)調査地点で2分間川を観察し、確認できた浮遊物の種類と量を記入してください。（数えられないほど多い場合：多数）

種類	個数	種類	個数	種類	個数
・レジ袋		・紙袋		・ごみ入りレジ袋	
・ビニール袋		・新聞紙		・ごみ入り市指定ごみ袋	
・カップめん容器		・雑誌		・	
・発ぽうスチロールトレイ		・その他紙		・	
・ペットボトル		・タバコの包装		・	
・空き缶		・タバコの吸殻		・	
・空きビン		・木の葉、枝、草		・	
・紙パック		・藻		・	

(2)調査地点周辺（陸上）に落ちているごみの種類を記入してください。該当に○をつけてください。

種類	該当○	種類	該当○	種類	該当○
・レジ袋		・紙袋		・ごみ入りレジ袋	
・ビニール袋		・新聞紙		・ごみ入り市指定ごみ袋	
・カップめん容器		・雑誌		・	
・発ぽうスチロールトレイ		・その他紙		・	
・ペットボトル		・タバコの包装		・	
・空き缶		・タバコの吸殻		・	
・空きビン		・木の葉、枝、草		・	
・紙パック		・藻		・	

コメント

7. 泡の発生

(1)調査地点から川を観察し、泡の発生状況について○をつけてください。（複数可）

①泡が川底からわいてくる　②泡が上流から流れてくる　③泡が下流からながれてくる　④泡はみられない

(2)(1)で泡があると答えられた方のみ記入してください。泡の発生の場所はどこですか。（複数可）

①川の全面　②川の中央部分　③川の右岸寄り*1　④川の左岸寄り*2　⑤その他（　　）

*1上流から見て右側　*2上流から見て左側

(3)(1)で泡があると答えられた方のみ記入してください。泡の特徴について、該当する項目に○をつけてください。

1)泡の様子

①すぐに消える泡　②洗剤でできるような泡　③アクのような泡　④その他（　　）

2)泡の色

①無色　②白色　③その他の色（何色かを書いてください：　　）

8. 生　物

調査地点で川を5分間観察し、確認できた魚類等を含む水生生物、鳥などの種名と確認数をわかる範囲で記入してください。

種　名	確認数	コ メ ン ト

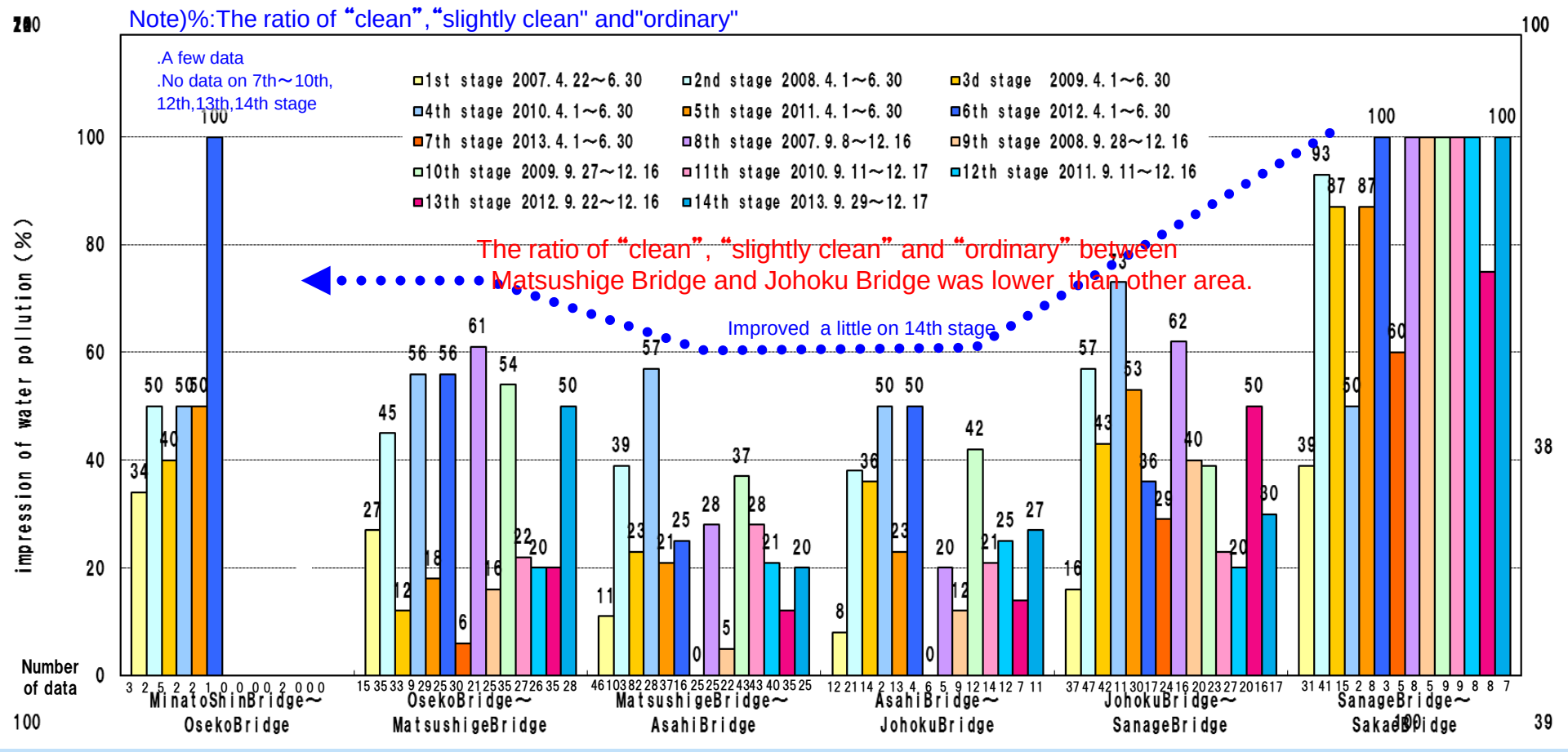
9. その他、本日の調査で気がついたことがありましたら、記入してください。

コメント

Impression of Water Cleanness

“The ratio of " clean","slightly clean" and"ordinary"*

The 1st～6th stage
.With TRWKR
.No rain on the day and the previous day
The 7th～14th stage
.No TRWKR
.Norain on the day and the previous day



■ How did the impression of water cleanness change?

- The ratio of “clean”, “slightly clean” and “ordinary” between Johoku Bridge and Matsushige Bridge was low.
- The impression of water cleanness between Johoku Bridge and Matsushige Bridge was improved on the 14th stage.However it was worse than other area.

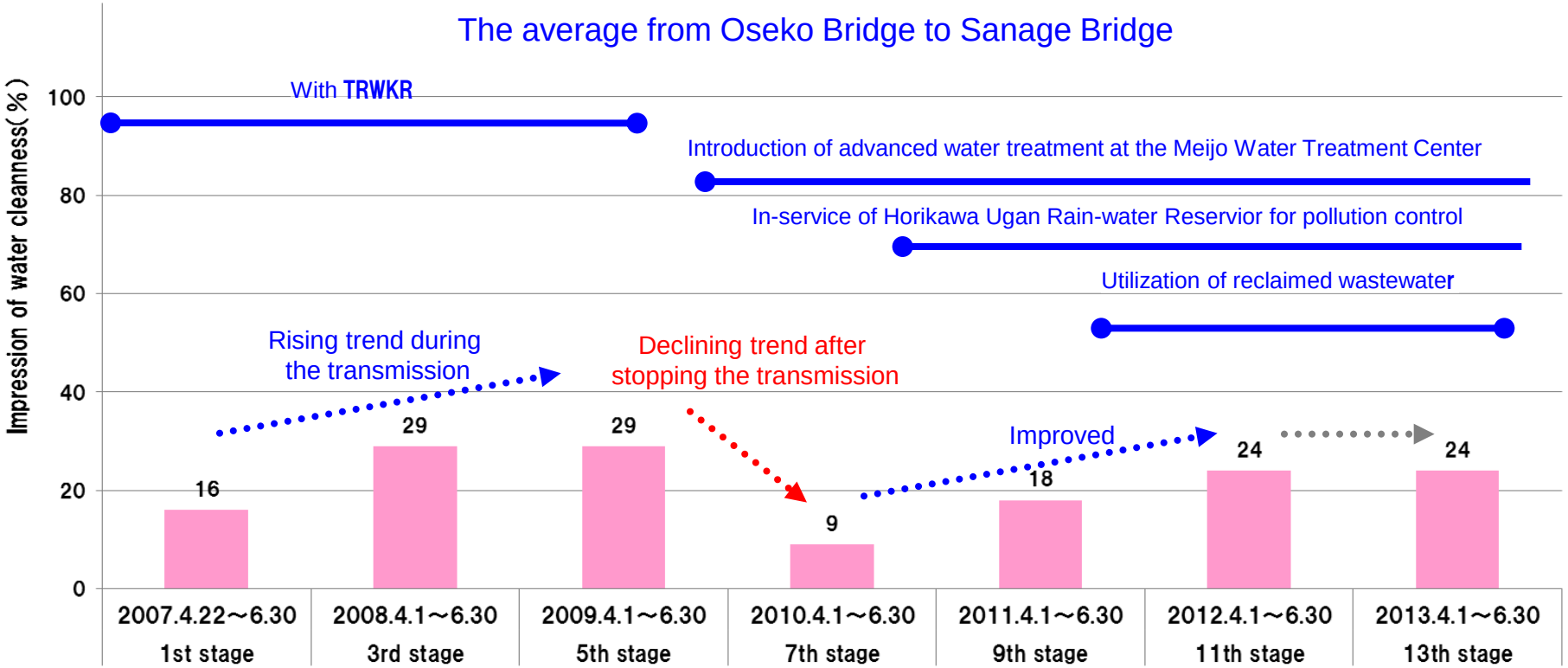
* “clean”, “slightly clean” and “ordinary” are categorized as the acceptable range for citizens.

Impression of Water Cleanness From Spring to Early Summer

The percentage of people who answered between “clean” and “ordinary”

The 1st,3rd,5th stage
.With TRWRKR
.No rain on the day and the previous day
The 7th,9th,11th,13th stage
.NoTRWRKR
.No rain on the day and the previous day

Note : Answers we got from Minatoshin Bridge to Oseko Bridge and from Sanage Bridge to Sakae Bridge are not counted because we got few answers there.



■ How did the impression of water cleanness change (spring ~ early summer) ?
→It seemed that water cleanness is rising trend during the transmission. In 7th stage after the stop of TRWKR, water cleanness was deteriorated. But afterward impression of water cleanness was improved. This is considered to be an effect of the new water quality improvement measures.
* “clean”, “slightly clean” and “ordinary” are categorized as the acceptable range for citizens.

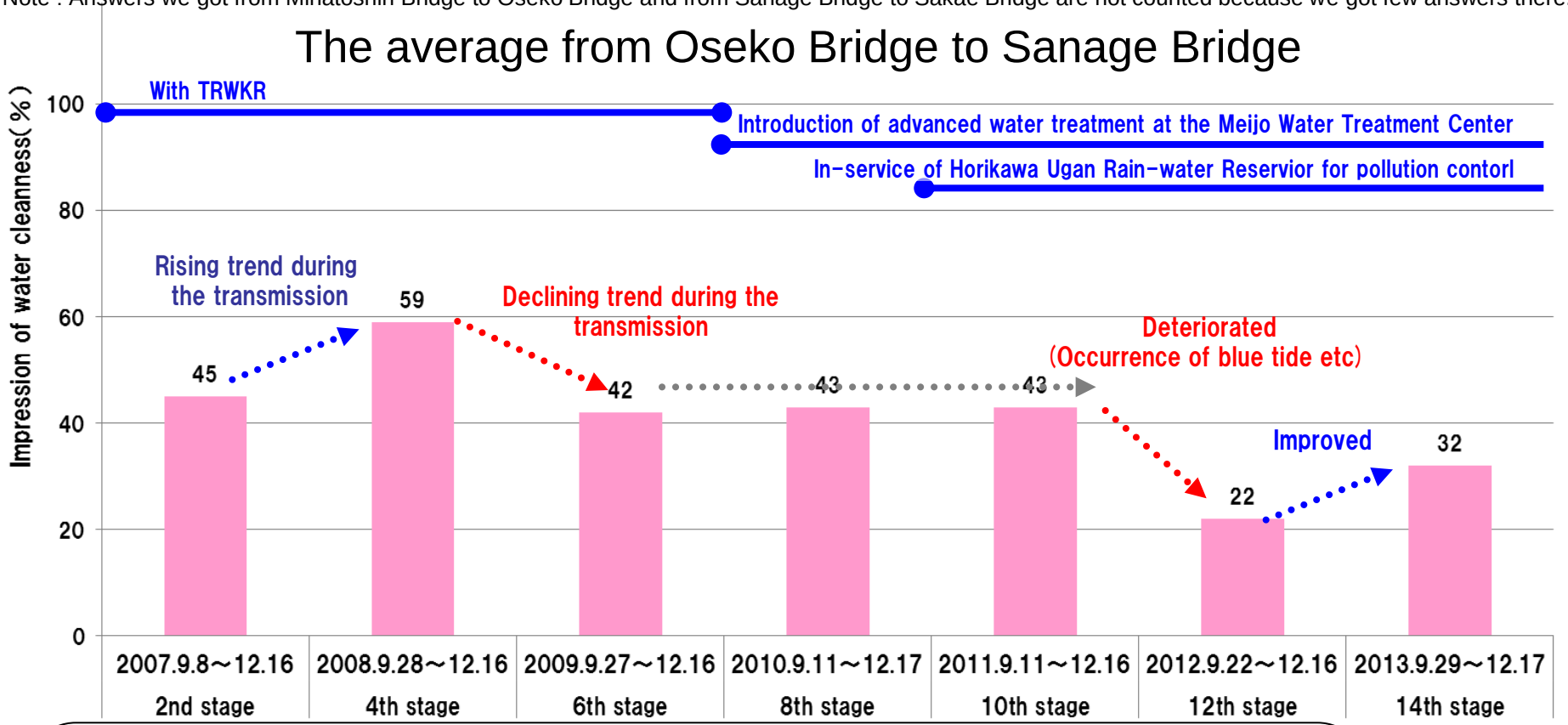
Impression of Water Cleanness from Autumn to Early Winter

The percentage of people who answered between “clean” and “ordinary”

The 2nd,4th,6th stage
With TRWKR
No rain on the day and the previous day

The 8th,10th,12th stage
No TRWKR
No rain on the day and the previous day

Note : Answers we got from Minatoshin Bridge to Oseko Bridge and from Sanage Bridge to Sakae Bridge are not counted because we got few answers there.



■How did the impression of water cleanness change (autumn ~ early winter) ?
→It seemed that during the transmission water cleanness was improved in 4th stage. But, it was deteriorated in 6th stage. After stopping the transmission, it was remained at the same level until 10th stage. But it was deteriorated in 12th stage because of the occurrence of blue tide. In the 14th stage, impression of water cleanness was improved a little, but the ratio in 14th stage was lower than in 10th stage.

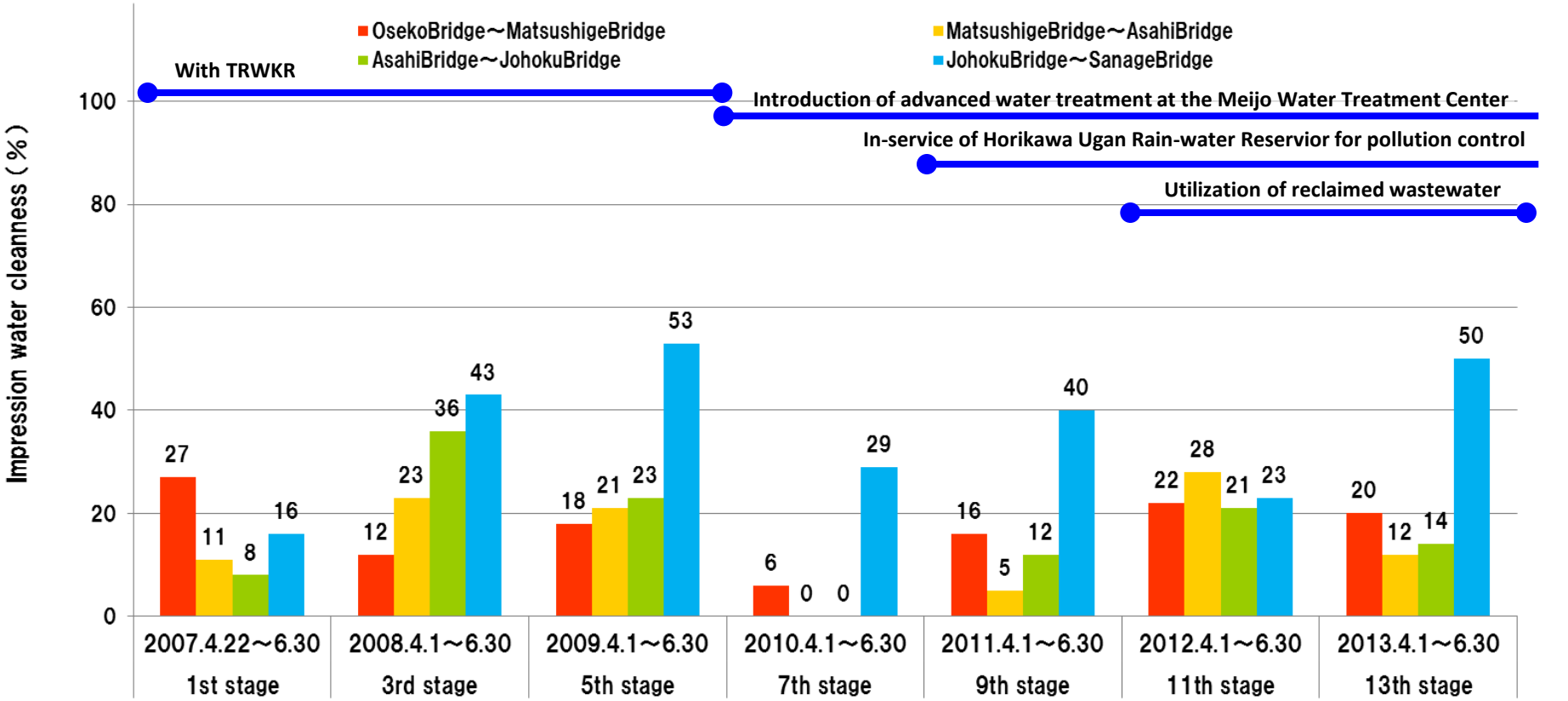
* “clean”, “slightly clean” and “ordinary” are categorized as the acceptable range for citizens.

Impression of Water Cleanness from Spring to Early Summer

The 1st,3rd,5th stage
・With TRWKR
・No rain on the day and the previous day
The 7th,9th,11th stage
・No TRWKR
・No rain on the day and the previous day

"The percentage of people who answered between "clean" and "ordinary"*

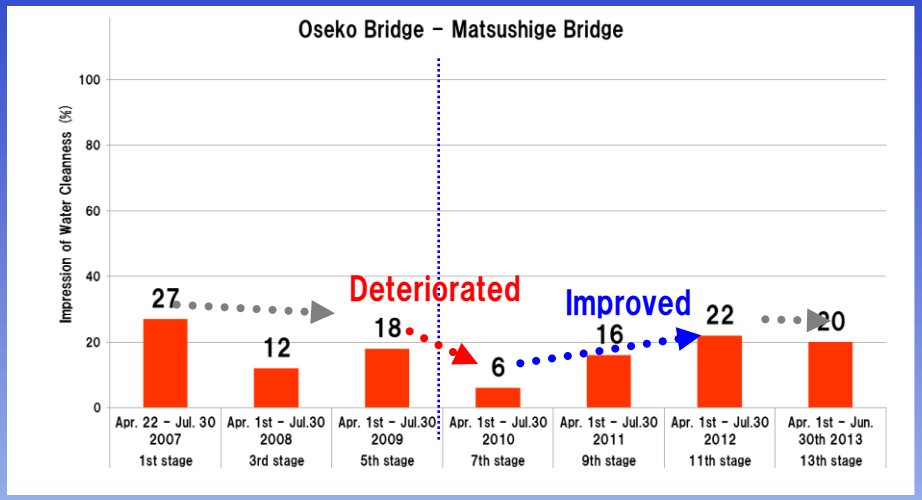
Note : Answers we got from Minatoshin Bridge to Oseko Bridge and from Sanage Bridge to Sakae Bridge are not counted because we got few answers there.

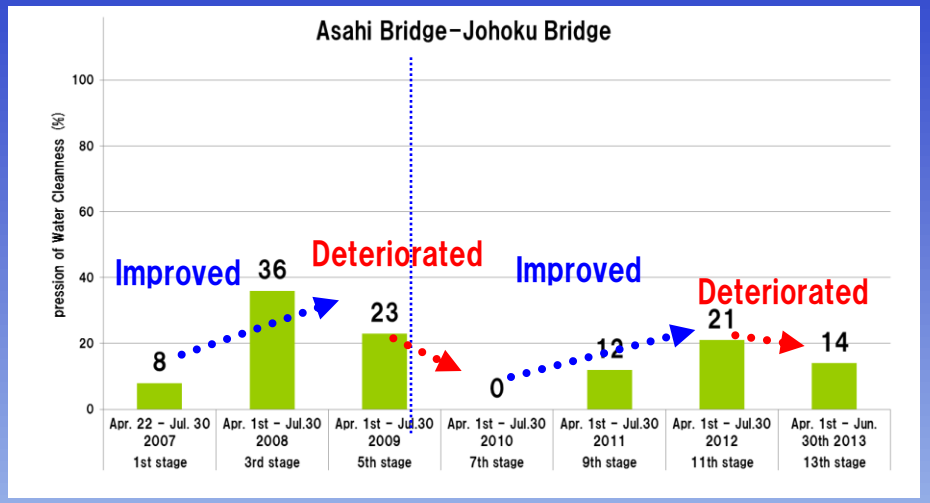


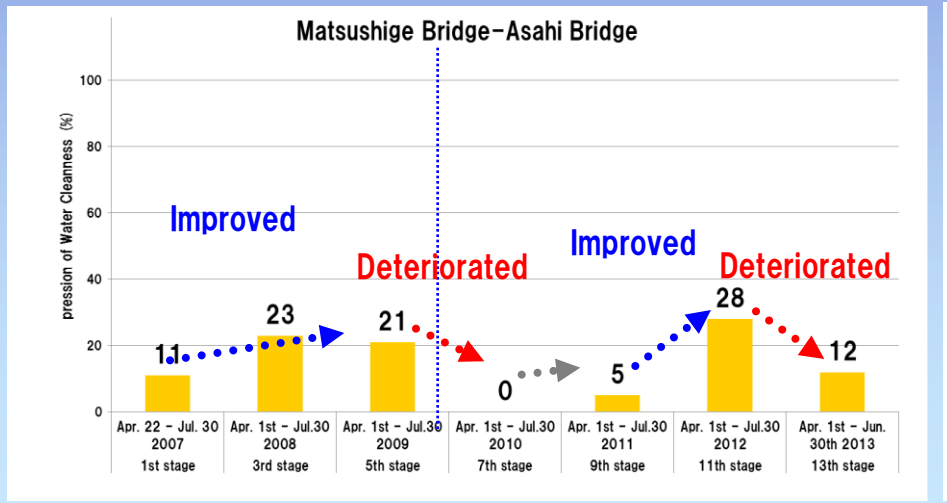
Impression of Water Cleanness from Autumn to Early Winter

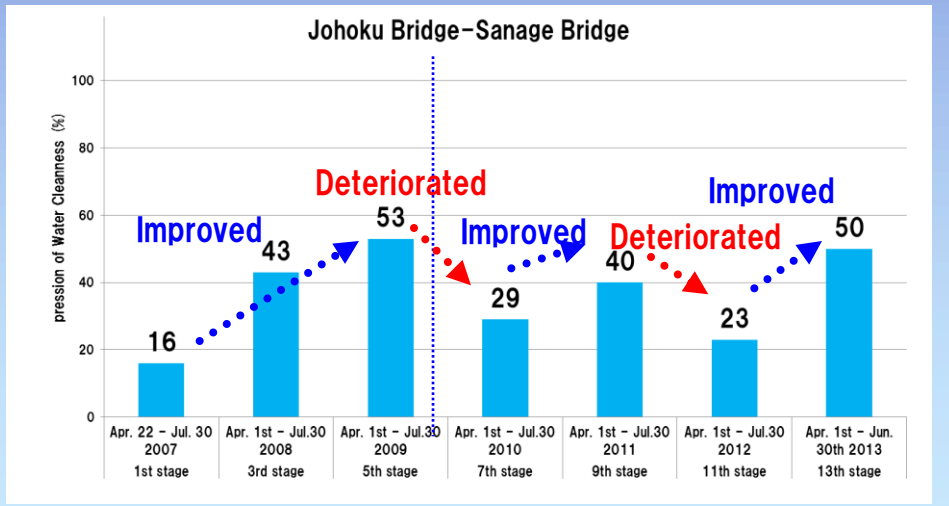
The ratio of “clean“, ”slightly clean”, and “ordinary”

The 1st/3rd/5th Stage : with TRWKR
No rain on the day and the previous day
The 7th/9th/11th Stage: No TRWKR
No rain on the day and the previous day







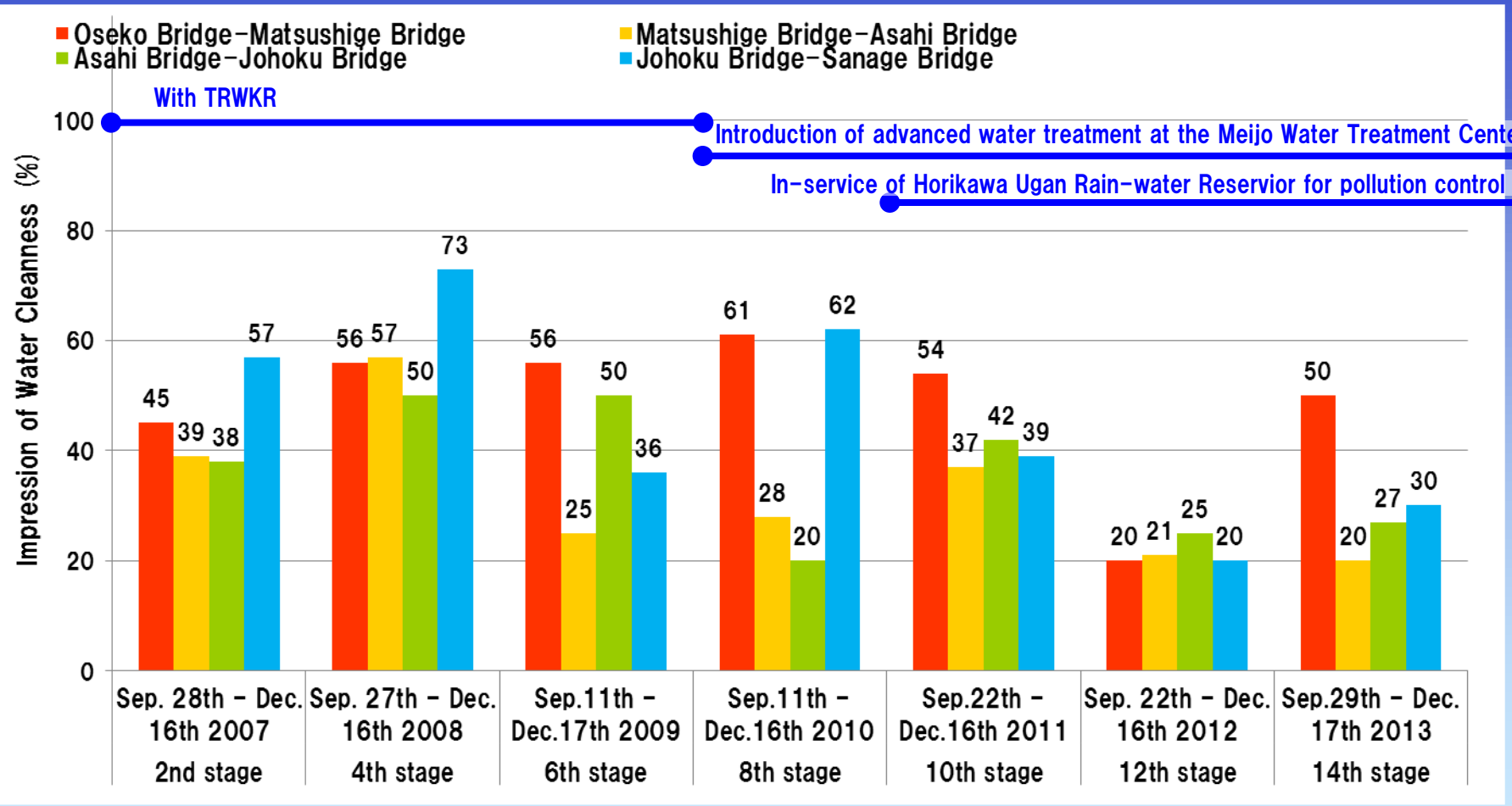


Impression of Water Cleanness from Autumn to Early Winter

The ratio of “clean“, ”slightly clean”, and “ordinary”

Note : except “Minatoshin Bridge – Ohseko Bridge” , “ Sanage Bridge – Sakae Bridge” for not enough data

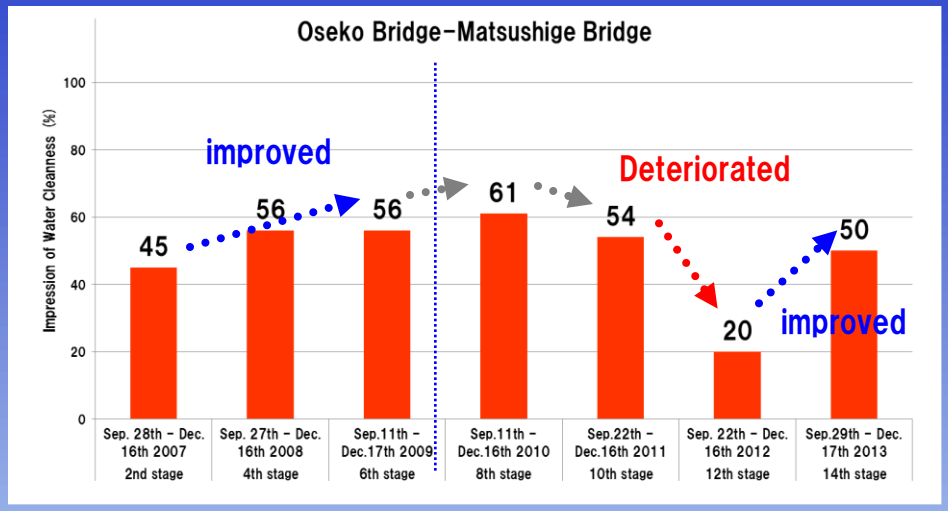
2nd・4th・6th stage : with TRWKR
No rain on the day and the previous day
8th・10th・12th stage: No TRWKR
No rain on the day and the previous day

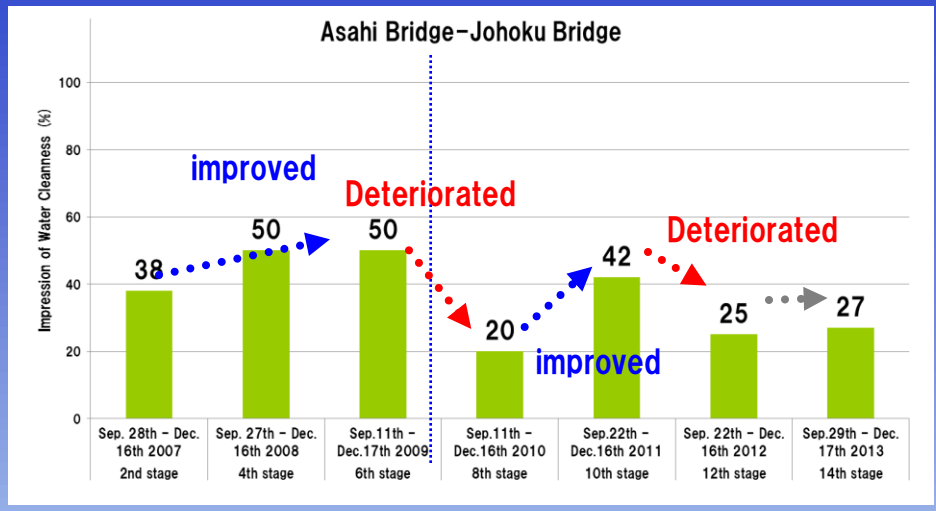


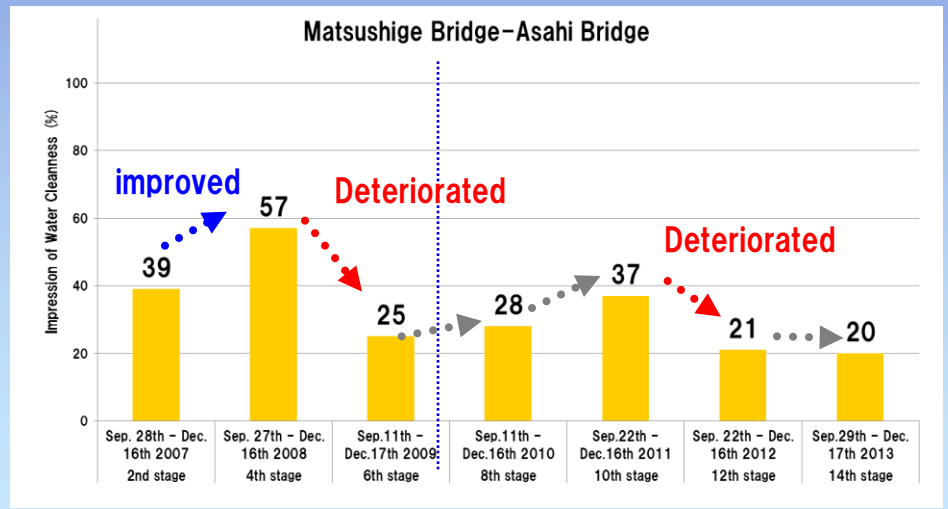
Impression of Water Cleanness from Autumn to Early Winter

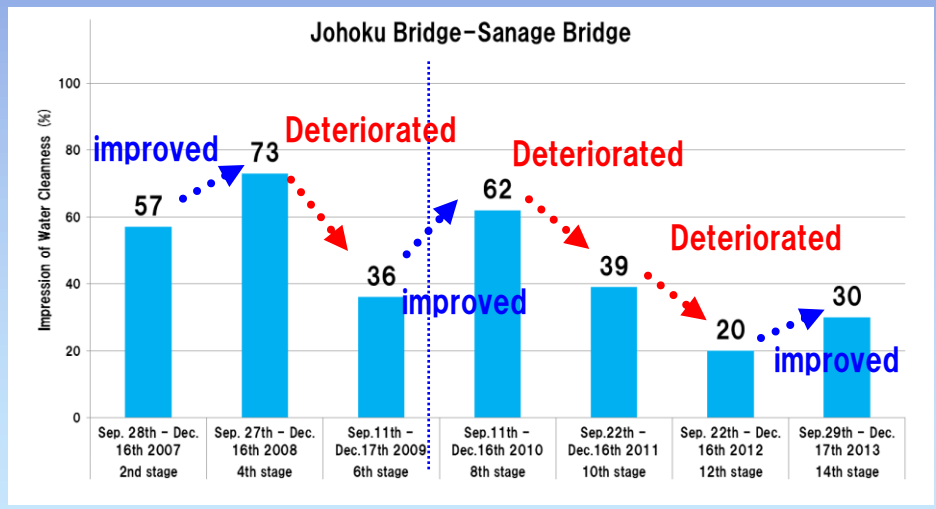
The ratio of “clean“, ”slightly clean”, and “ordinary”

2nd・4th・6th stage : with TRWKR
No rain on the day and the previous day
8th・10th・12th stage: No TRWKR
No rain on the day and the previous day









Change of Evaluation of Impression of Water Cleanness

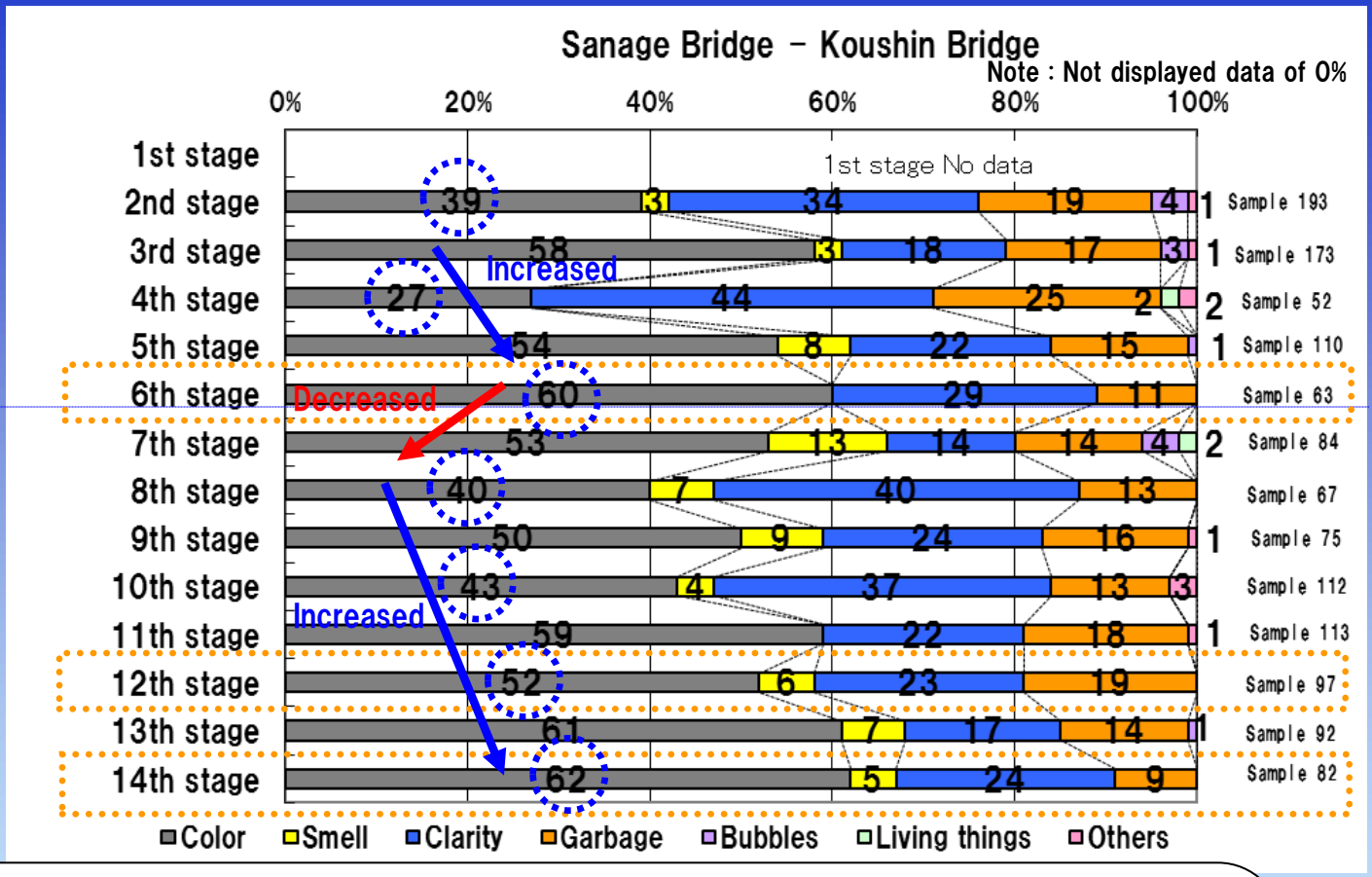
2nd to 6th Stage : With TRWKR
No rain of the day and previous day
7th to 12th Stage : No TRWKR
No rain of the day and previous day

With TRWKR

Introduction of Advanced Sewerage Treatment at the Meijyo Water Treatment Center

In-service of Horikawa Ugan Rain-water Reservoir for Pollution Control

Utilization of Reclaimed Wastewater



How did the change of evaluation of impression of water cleanness?

→Main evaluation of impression of water cleanness were “color”, “clarity” and “garbage”. After 9th stage, “color” was most evaluated.

At the stage from autumn to early winter (2nd ,4th ,6th ,8th ,10th ,12th and 14th Stage), the ratio of “color” was increased, during the period of TRWKR. At 8th stage, after finished TRWKR, the ratio of evaluation of color was decreased, but after that, the ratio of evaluation of color was increased to 14th stage. At 14th stage, the ratio of color is 62%. It was almost same level“60%” at 6th stage.

We consider that we need more data and analysis to know the relationship of impression of water cleanness and water color, becouse water color is affected multiply about “blue tide”, “phytoplankton include with red tide”, and “color of riverbed”

Evaluation of impression of Water Cleanness

From Sanage Brdg. To Minatoshin Brdg.

TRWKR

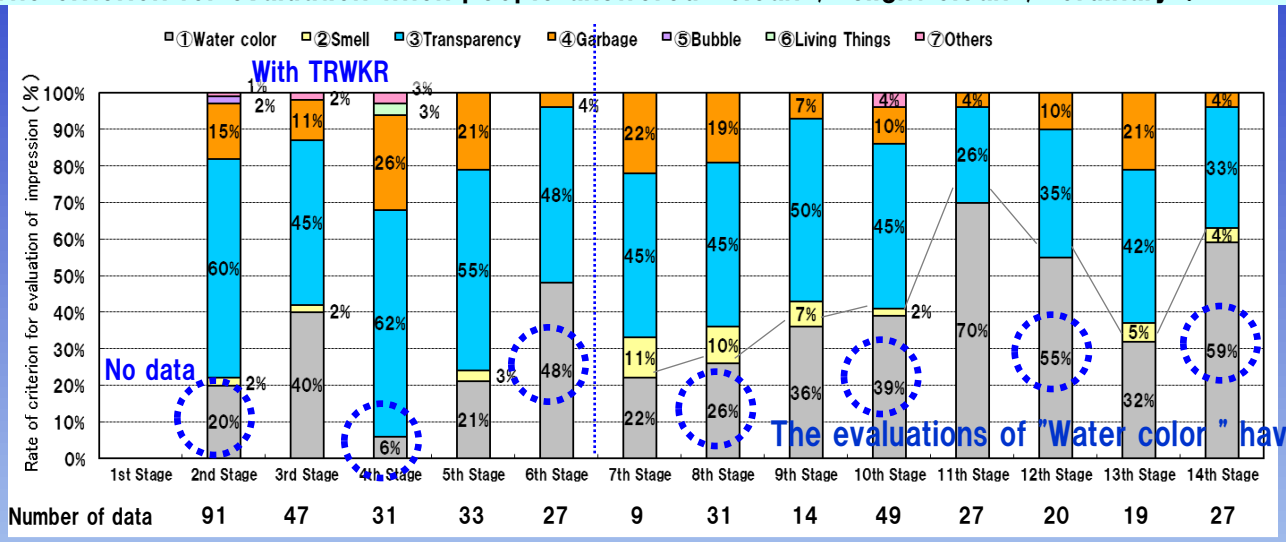
Introduction of an advanced water treatment at Meijo Water Treatment Center

In-service of Horikawa Ugan Rain-water Reservoir for pollution control

Utilization of reclaimed wastewater at Moriyama Water Treatment Center

1st stage: No data
2nd to 6th stage: With TRWKR
No rain on the day and the previous day
7th-14th stage: Without TRWKR
No rain on the day and the previous day

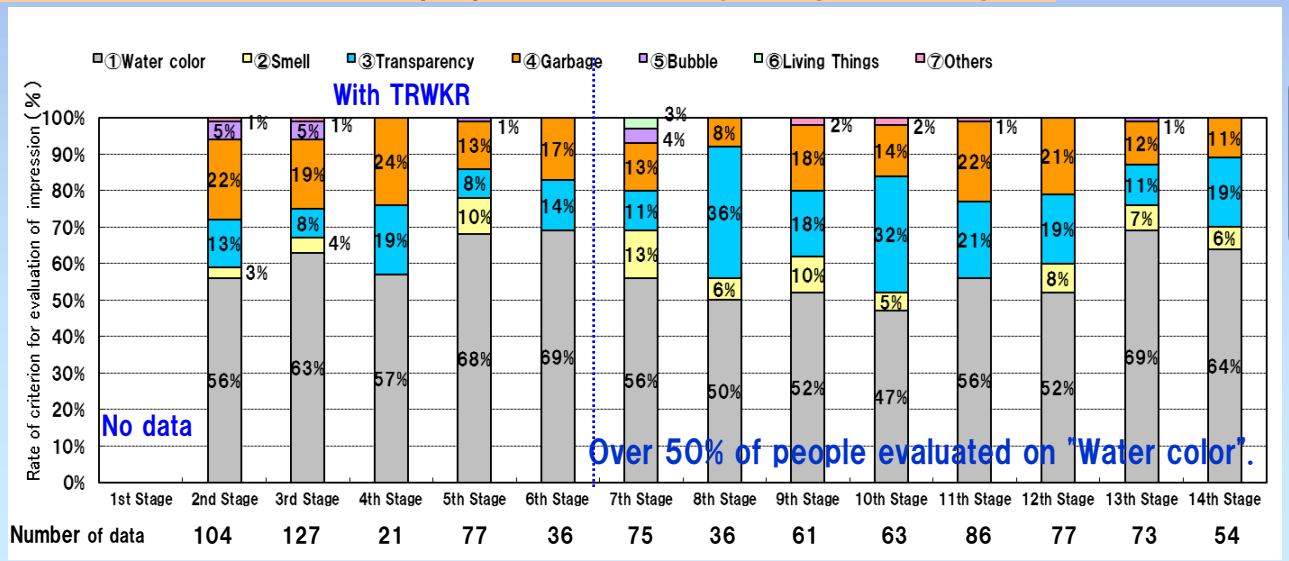
The criterion for evaluation when people answered “clean”, “slight clean”, “ordinary”.



The evaluations of "Water color " have increased.

■ How was the criterion for evaluation when people answered “clean”, “slightly clean”, “ordinary”? →In “autumn - early winter (8th,10th,12th,14th stage)” after the stop of TRWKR, the evaluations of “Water color” have increased. There were the most evaluations of "Water color” in 14th stage, the evaluations of "Water color " were 59%

The criteria for evaluation when people answered “slight dirty” and “dirty”.



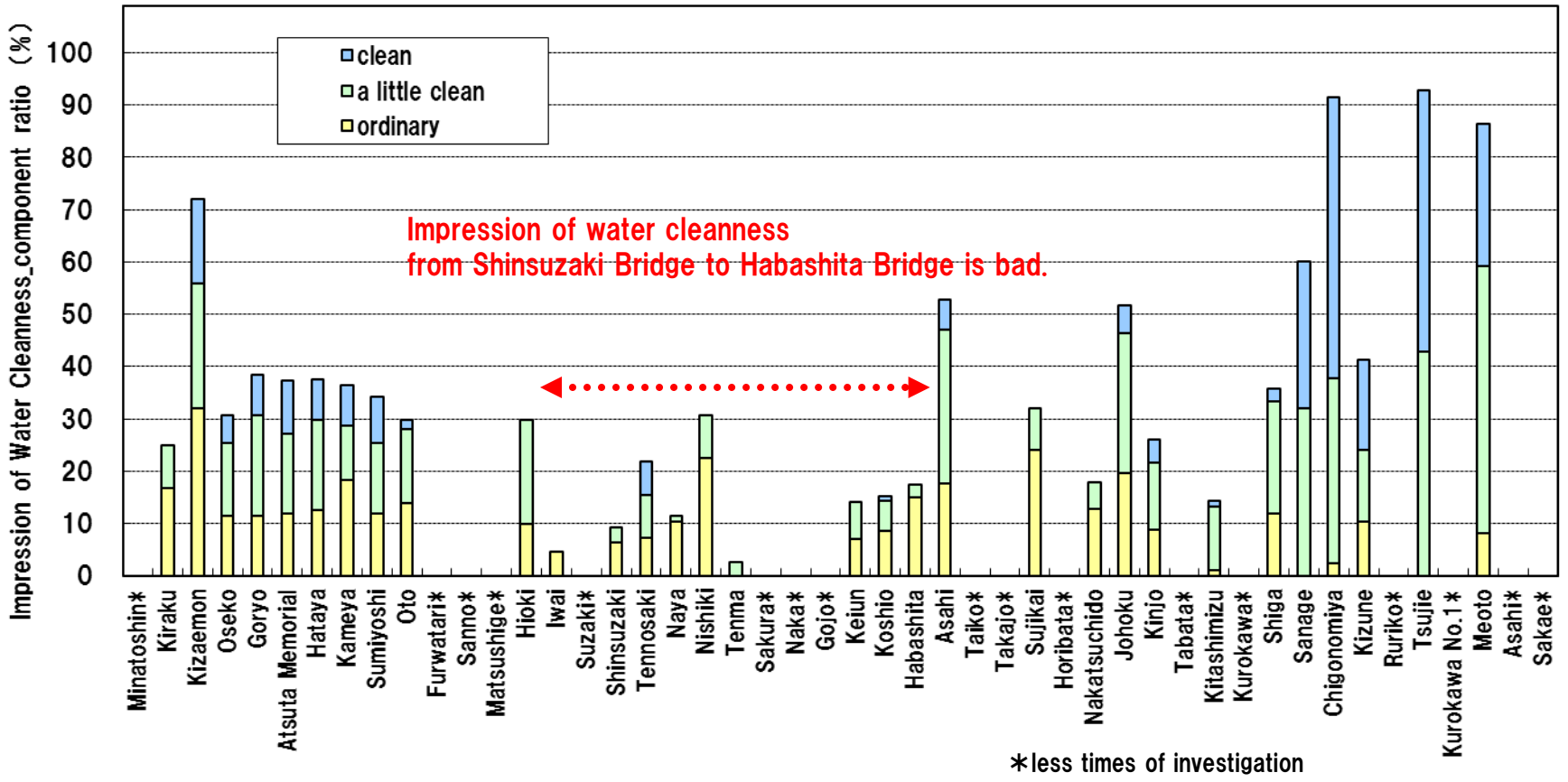
Over 50% of people evaluated on "Water color".

■ What were the criteia for evaluation when people answered “slight dirty” and “dirty”?
→Over 50% of people evaluated on "Water color".

Change of Impression of Water Cleanness

The percentage of people who answered “clean”, “slight clean”, “ordinary”.

The 1st – 14th stage



■ Which section’s impression was bad?

→Impression of water cleanness from Shinsuzaki Bridge to Habashita Bridge is bad.

The percentage of people who answered “clean”, “slight clean”, “ordinary” was under 20% between Keiun Bridge and Habashita Bridge.

“Clean”, “slight clean” and “ordinary” are categorized as the acceptable range for citizens.

2.Transparency

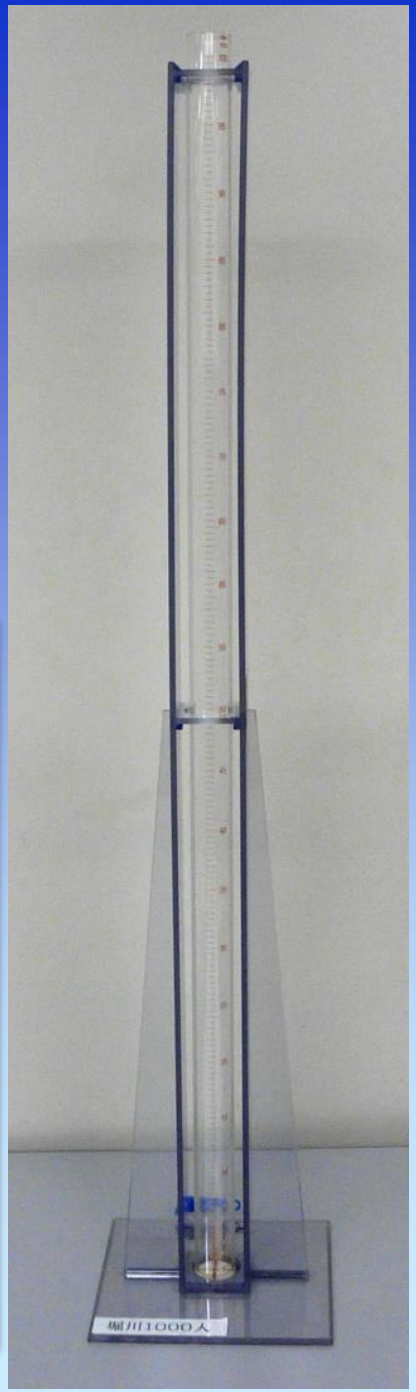
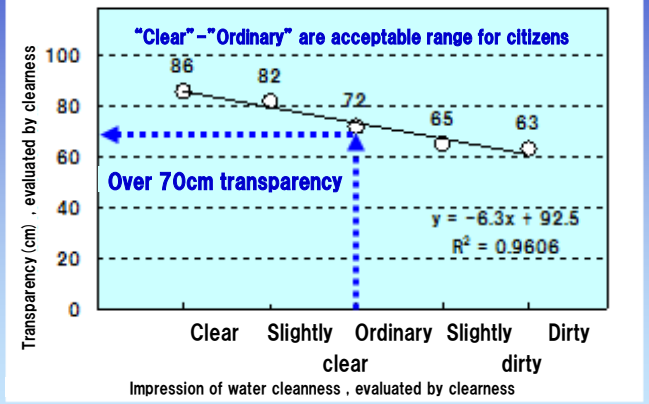


Photo: Survey Group of Team NTT Smile Nagoya

Relationship between the impression of cleanness and the average of transparency (clearness)

2nd-9th stage , No rain , Including out-of-period data
Impression of cleanness : Evaluated by clearness
All sections (including the upper reaches)

Ralationship between the impression of cleanness and transparency (clearness)



Transparency over 70cm can be an indicator to improve impression of water cleanness.

Note) The values over 100cm are treated as 100cm.

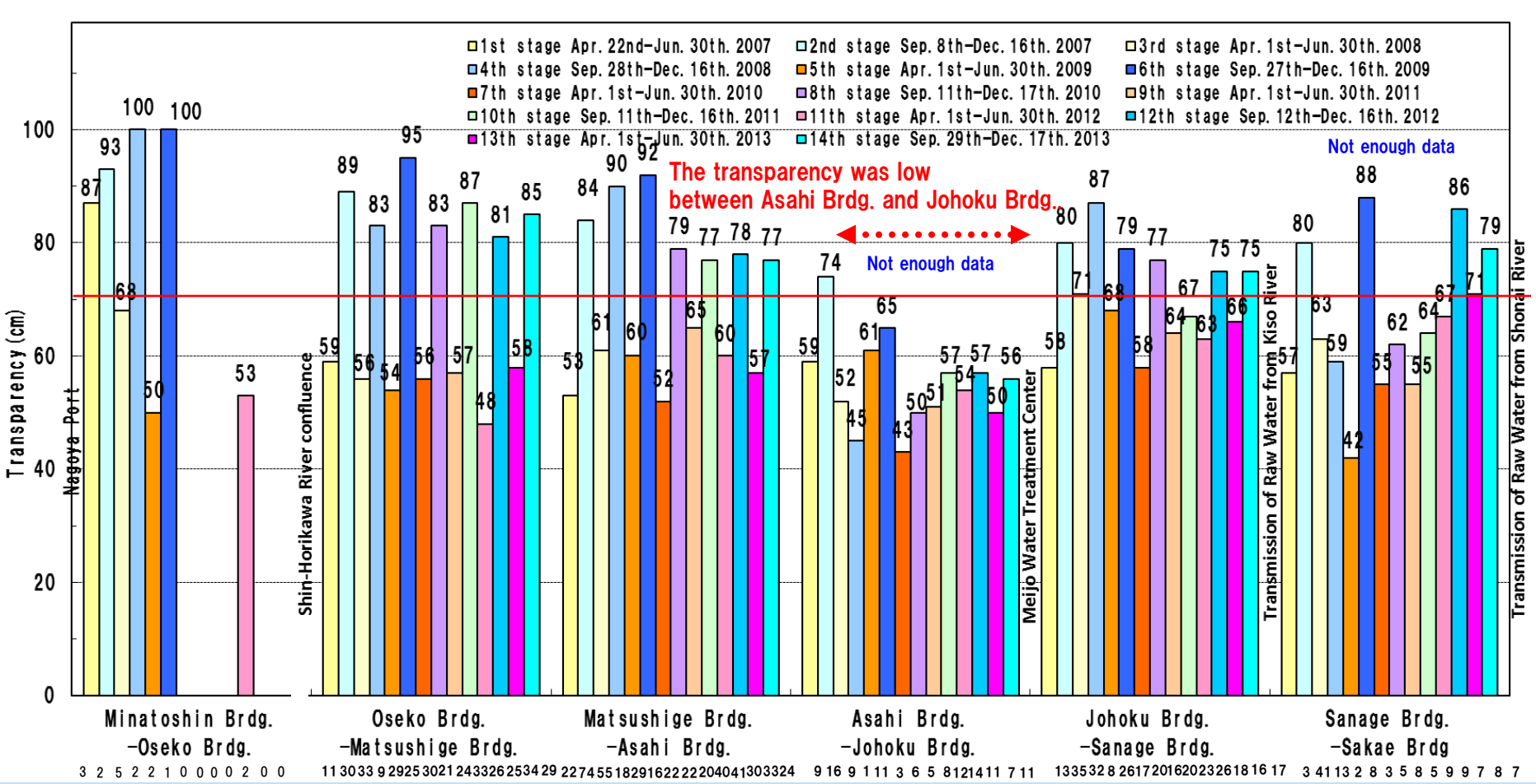
41

Reference: The reports for the HSC 10th stage meeting

Photo: Kawasemi survey group

Change of Transparency

1st - 6th stage: With TRWKR
No rain on the day and the previous day
7th-14th stage: Without TRWKR
No rain on the day and the previous day



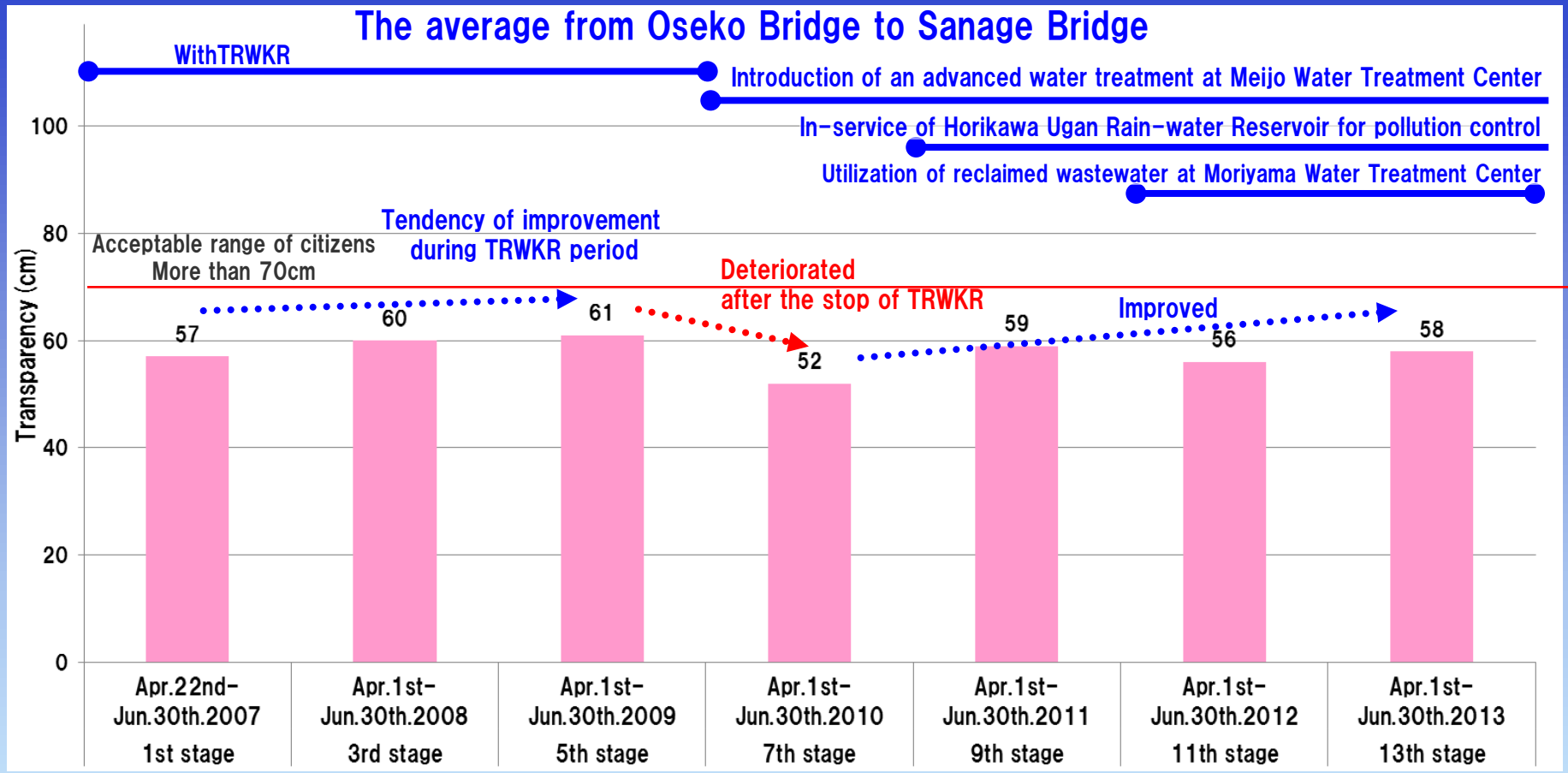
Not enough data
No data for 7th-10th・12th-14th stages for not enough data

Note) The values over 100cm are treated as 100cm.

Change of Transparency・・・Spring-Early Summer

Note) Except the data of "Minatoshin Brdg.-Oseko Brdg." and "Sanage Brdg.-Sakae Brdg." for not enough data.

1st 3rd 5th stage:With TRWKR
No rain on the day and the previous day
7th,9th,11th,13th stage:Without TRWKR
No rain on the day and the previous day



Note) The values over 100cm are treated as 100cm.

■ How did the transparency change (spring - early summer) ?

→During TRWKR period, we observed the improvement of transparency. In 7th stage, after the stop of TRWKR, transparency was deteriorated.

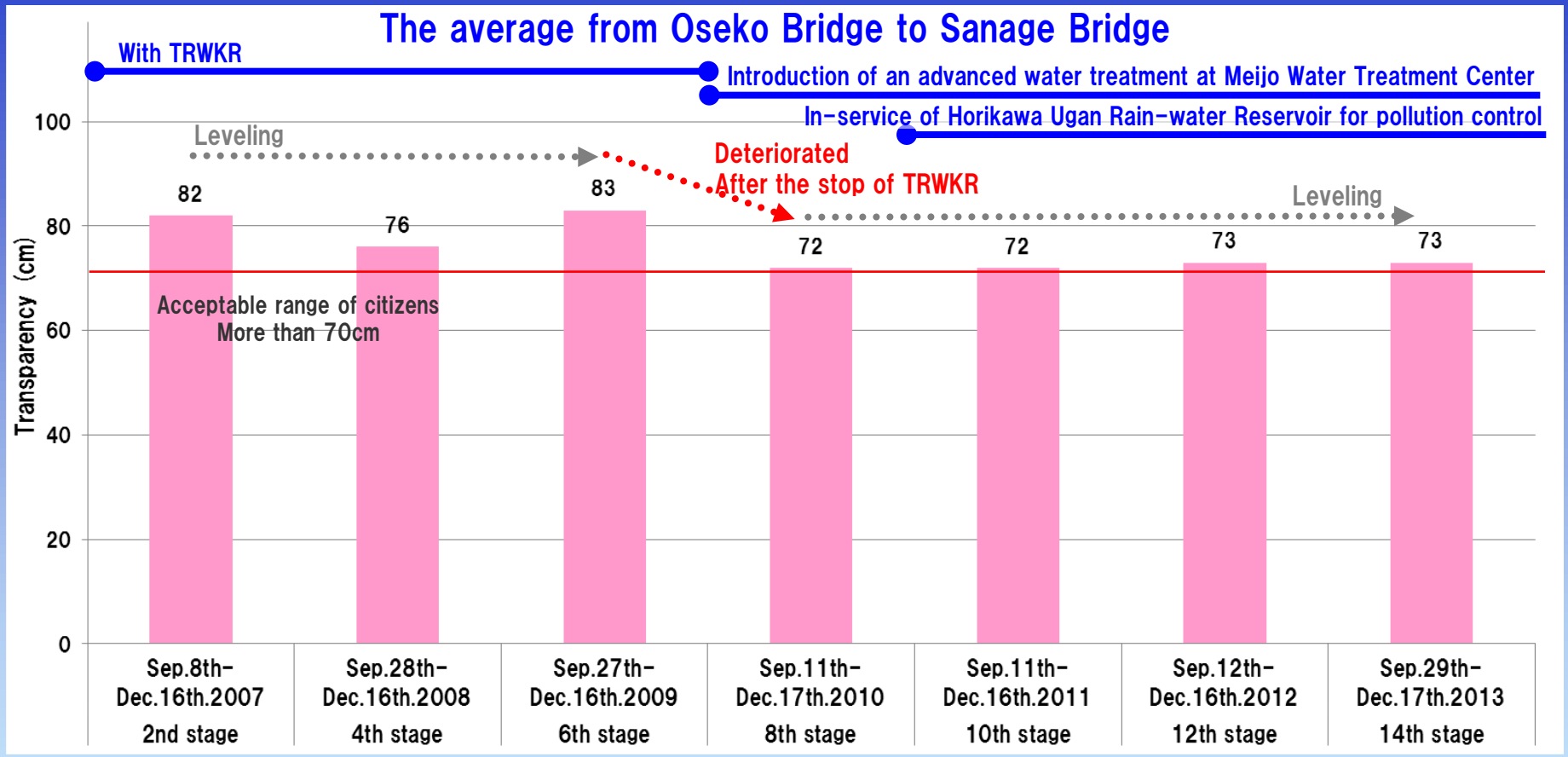
But afterward we observed the improvement of transparency again. This is considered to be an effect of the new water quality improvement measures.

The transparency in "spring-early summer" dose not meet 70cm which is the acceptable range of citizens.

Change of Transparency・・・Autumn-Early Winter

Note) Except the data of "Minatoshin Brdg.-Oseko Brdg." and "Sanage Brdg.-Sakae Brdg." for not enough data.

2nd,4th,6th Stage: With TRWKR
No rain on the day and the previous day
8th,10th,12th Stage: Without TRWKR
No rain on the day and the previous day



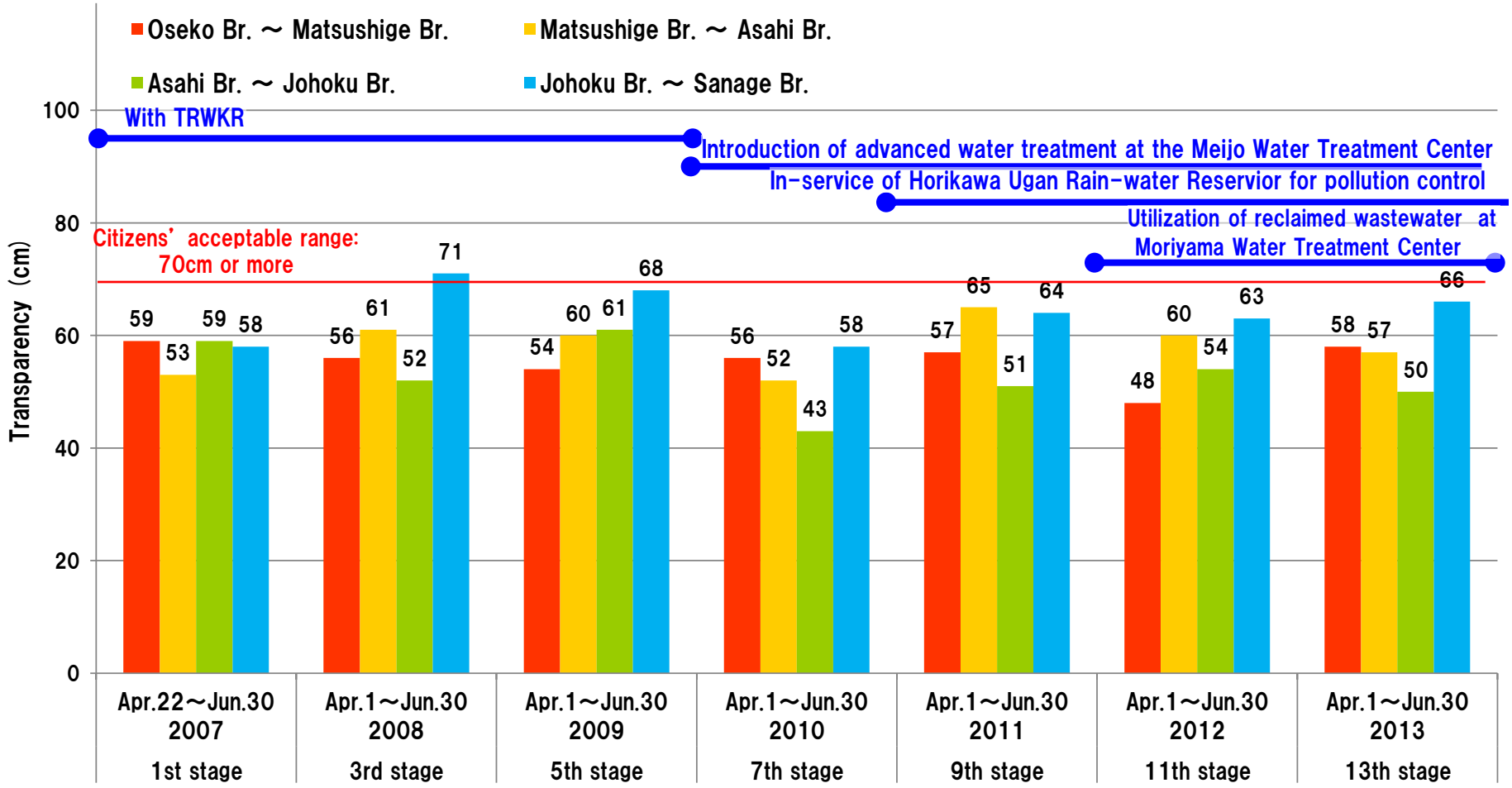
Note) The values over 100cm are treated as 100cm.

■ How did the impression of cleanness change (spring-early summer) ?
→In 7th stage after the stop of TRWKR, transparency was deteriorated.
But afterward it generally continues to be flat.
The transparency in "autumn - early winter" meets 70cm which is the acceptable range of citizens.

Change of Transparency・・・Spring～Early Summer

The 1st, 3rd, 5th stage
・With TRWKR
・No rain on the day and the previous day
The 7th, 9th, 11th , 13th stage
・No TRWKR
・No rain on the day and the previous day

Note) Except the data of "Minatoshin Brdg.-Oseko Brdg." and "Sanage Brdg.-Sakae Brdg." for not enough data

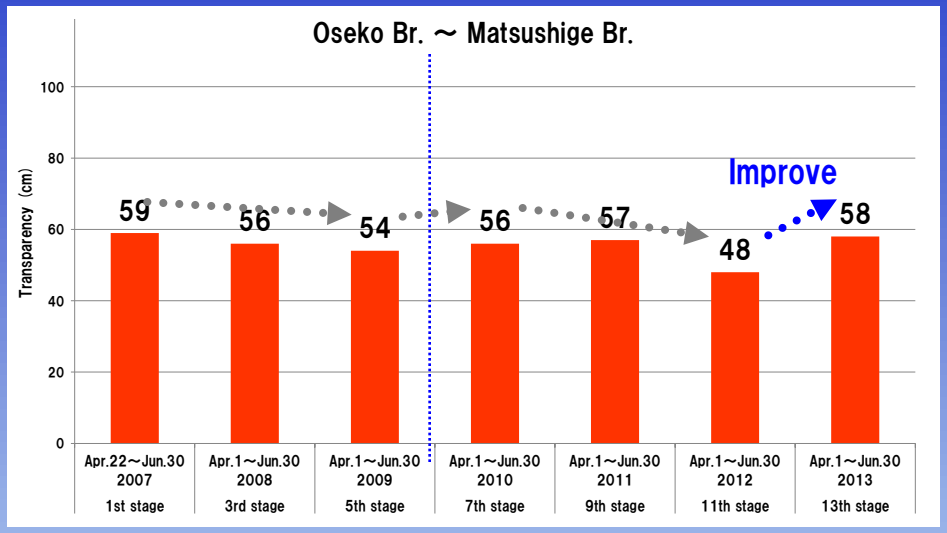


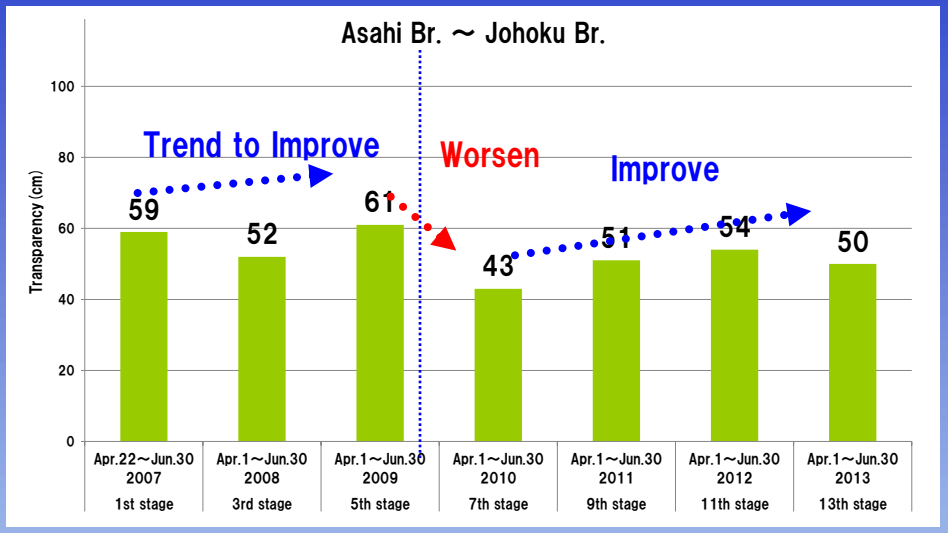
Note) The values over 100 cm are treated as 100cm.

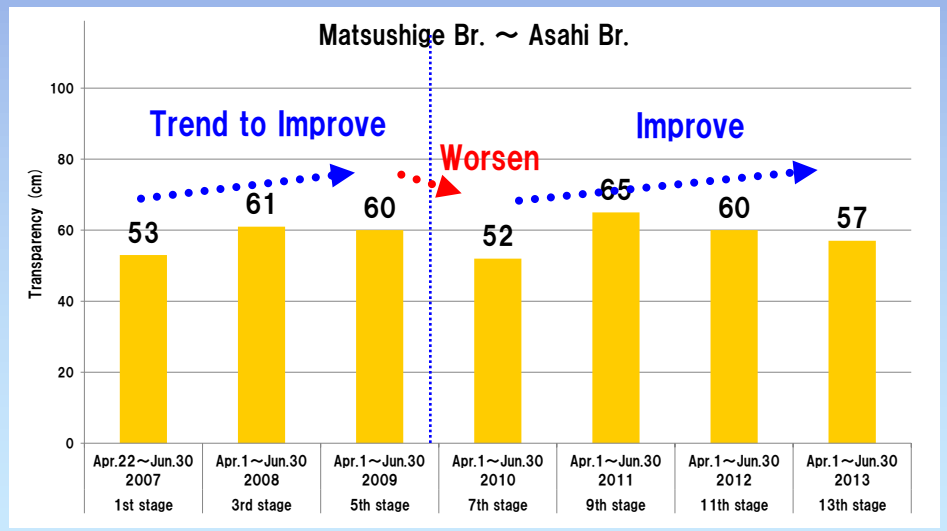
Change of Transparency・・・Spring～Early Summer

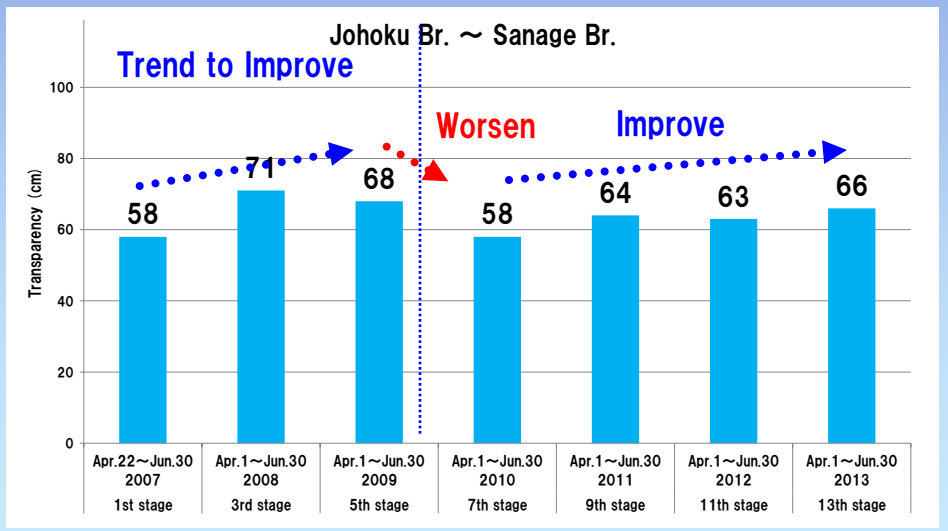
The 1st, 3rd, 5th stage
- With TRWKR
- No rain on the day and the previous day

The 7th, 9th, 11th , 13th stage
- No TRWKR
- No rain on the day and the previous day





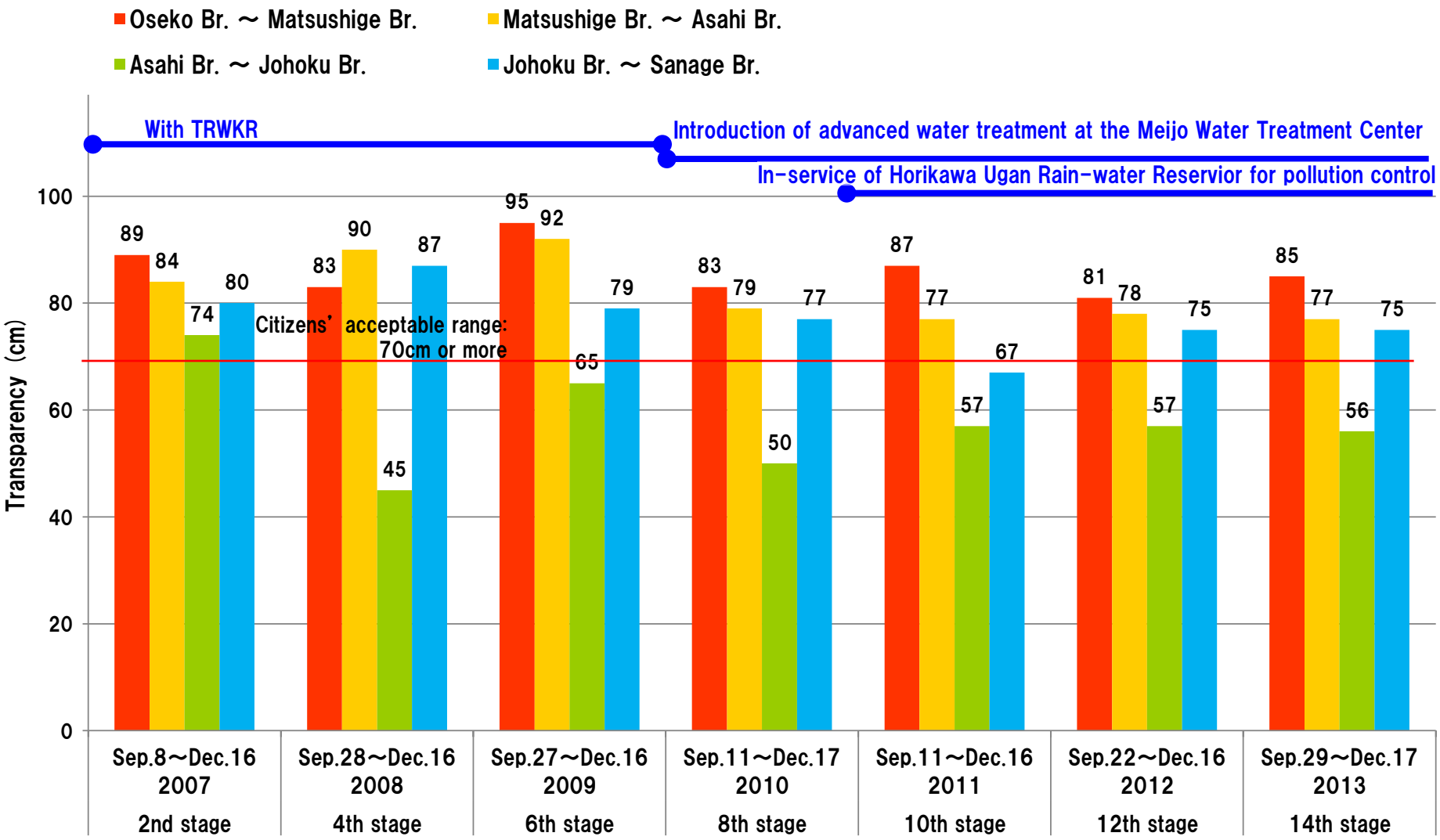




Change of Transparency･･･Autumn～Early Winter

Note) Except the data of "Minatoshin Brdg.-Oseko Brdg." and "Sanage Brdg.-Sakae Brdg." for not enough data

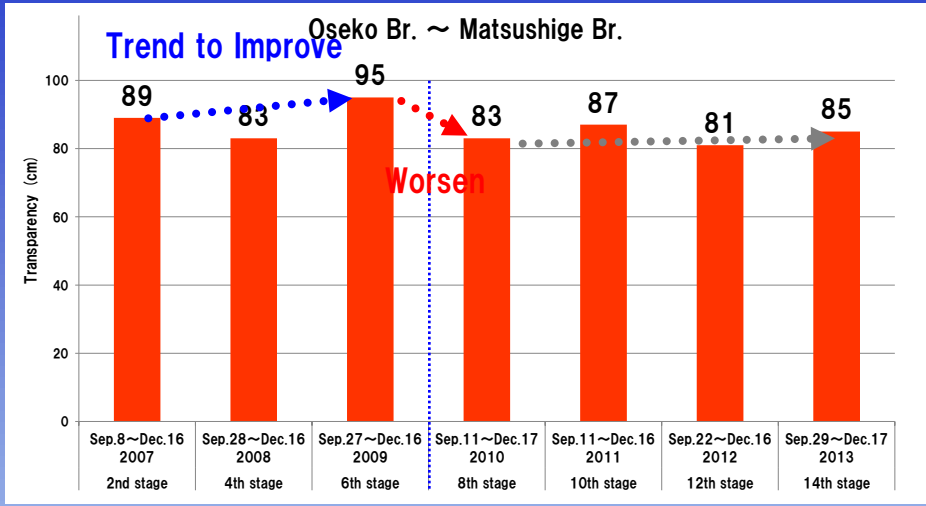
The 2nd, 4th, 6th stage
・With TRWKR
・No rain on the day and the previous day
The 8th, 10th, 12th , 14th stage
・No TRWKR
・No rain on the day and the previous day

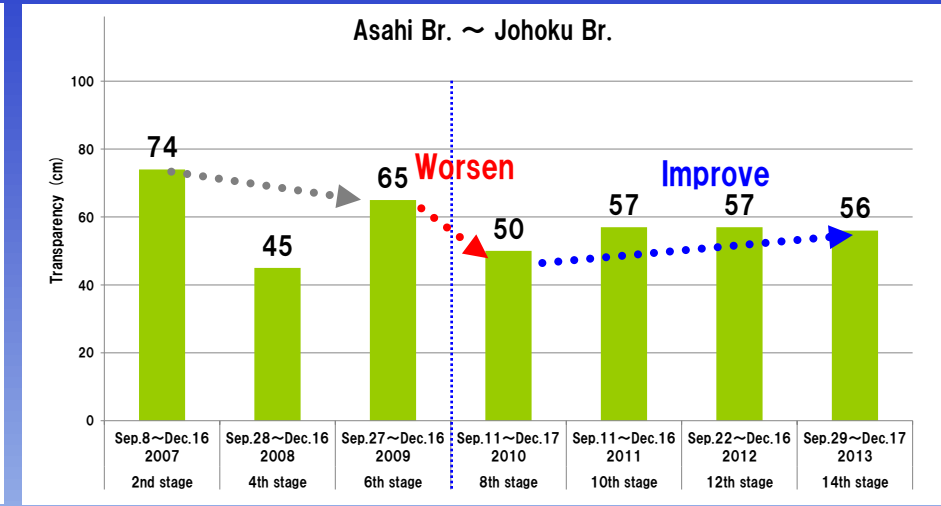


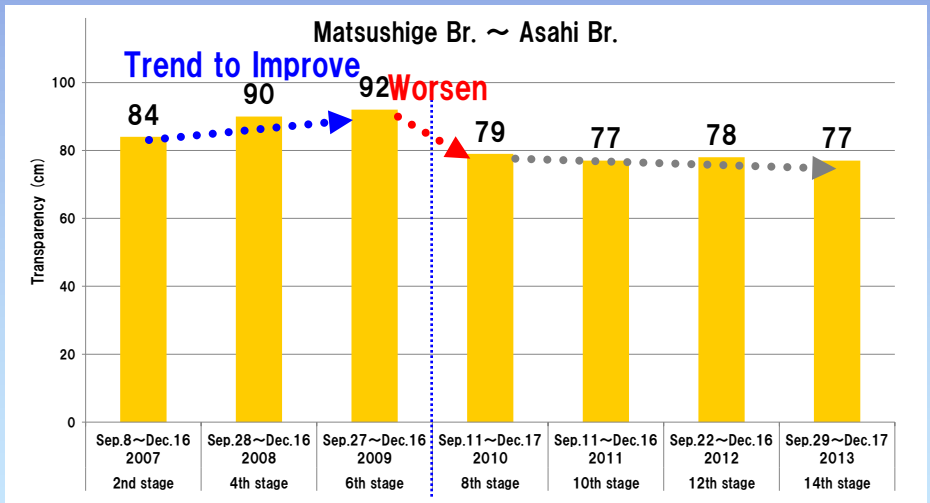
Note) The values over 100 cm are treated as 100cm.

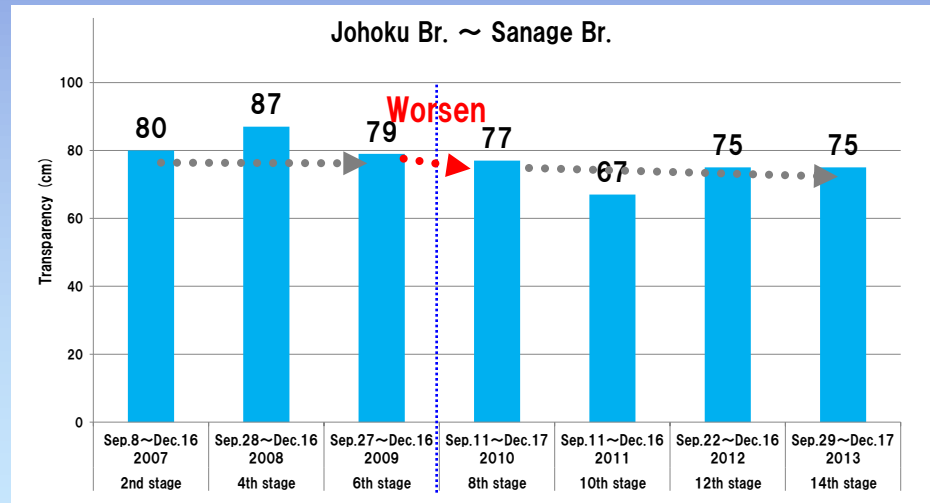
Change of Transparency･･･Autumn～Early Winter

The 2nd, 4th, 6th stage
・With TRWKR
・No rain on the day and the previous day
The 8th, 10th, 12th , 14th stage
・No TRWKR
・No rain on the day and the previous day



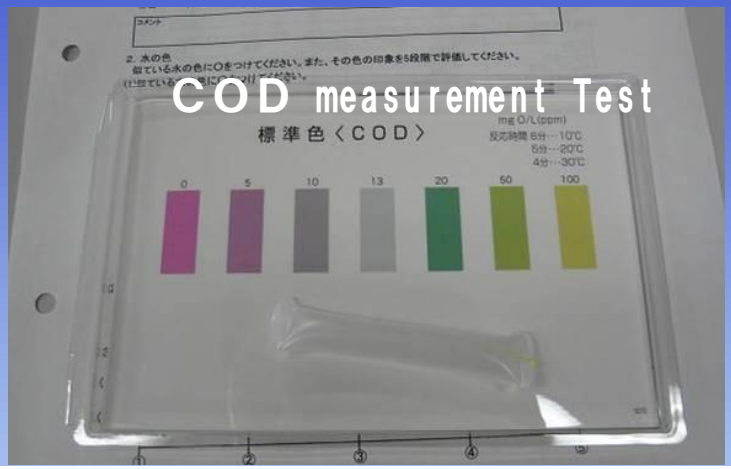


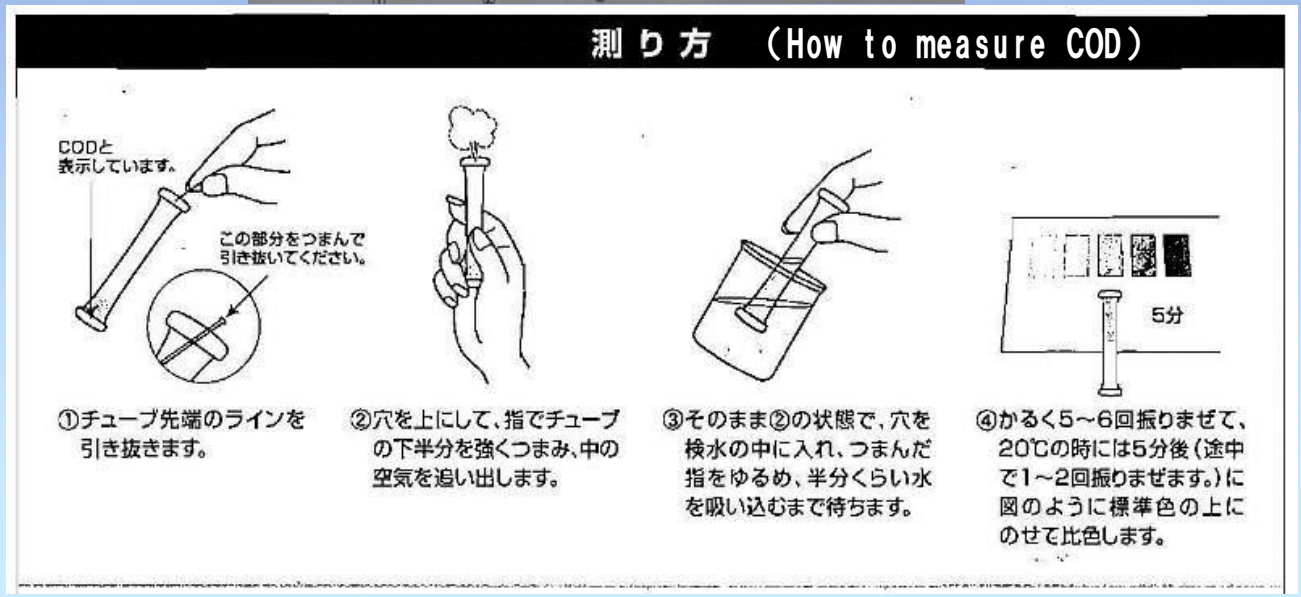




3. COD

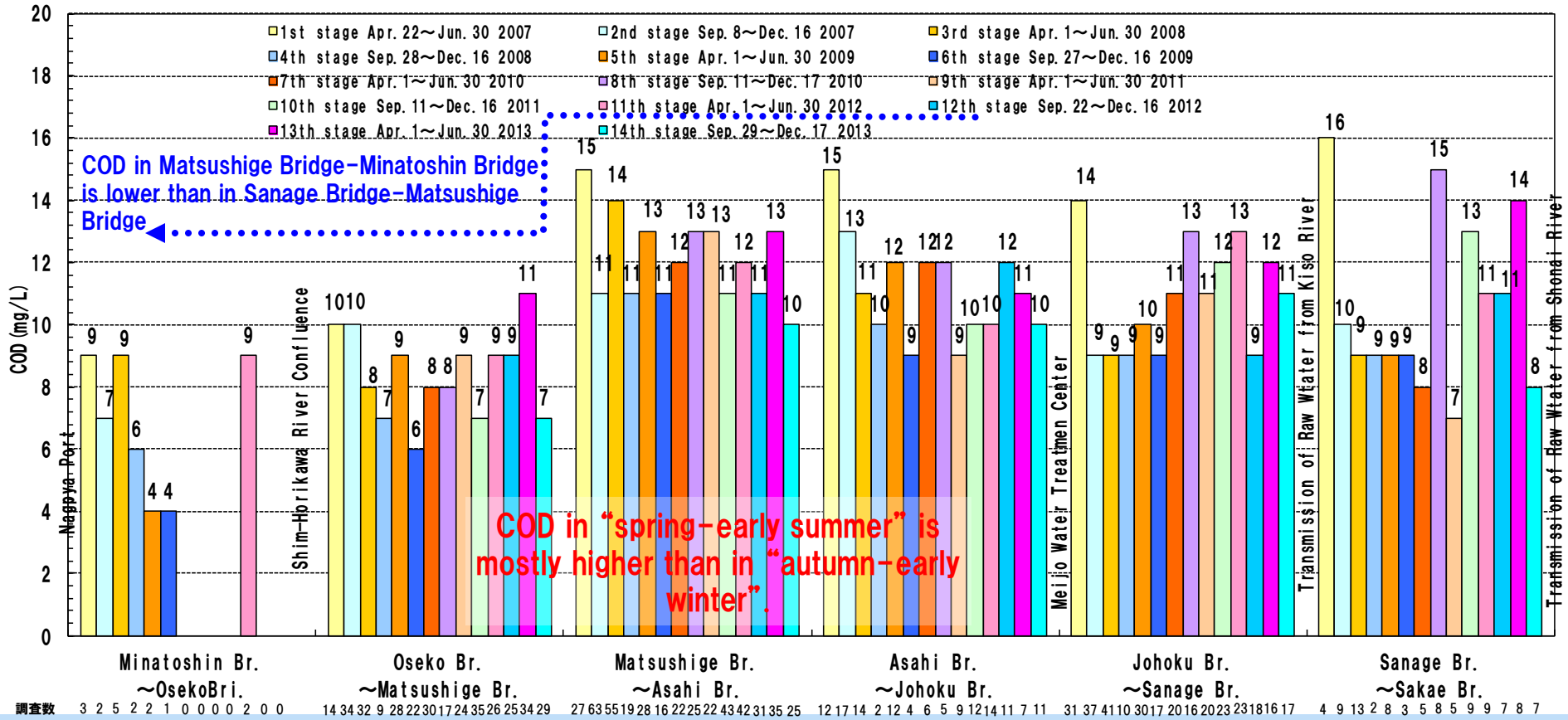
Chemical Oxygen Demand It shows the organic pollution level mainly at the sea area and lakes. It means the amount of oxygen which react (oxidize) with organic substance underwater. The higher the value of COD, the higher the pollution level.





Change of COD

1st – 6th stage:
With TRWKR
No rain on the day and the previous day
7th – 14th stage:
No TRWKR
No rain on the day and the previous day



Not enough data

Not enough data

Not enough data

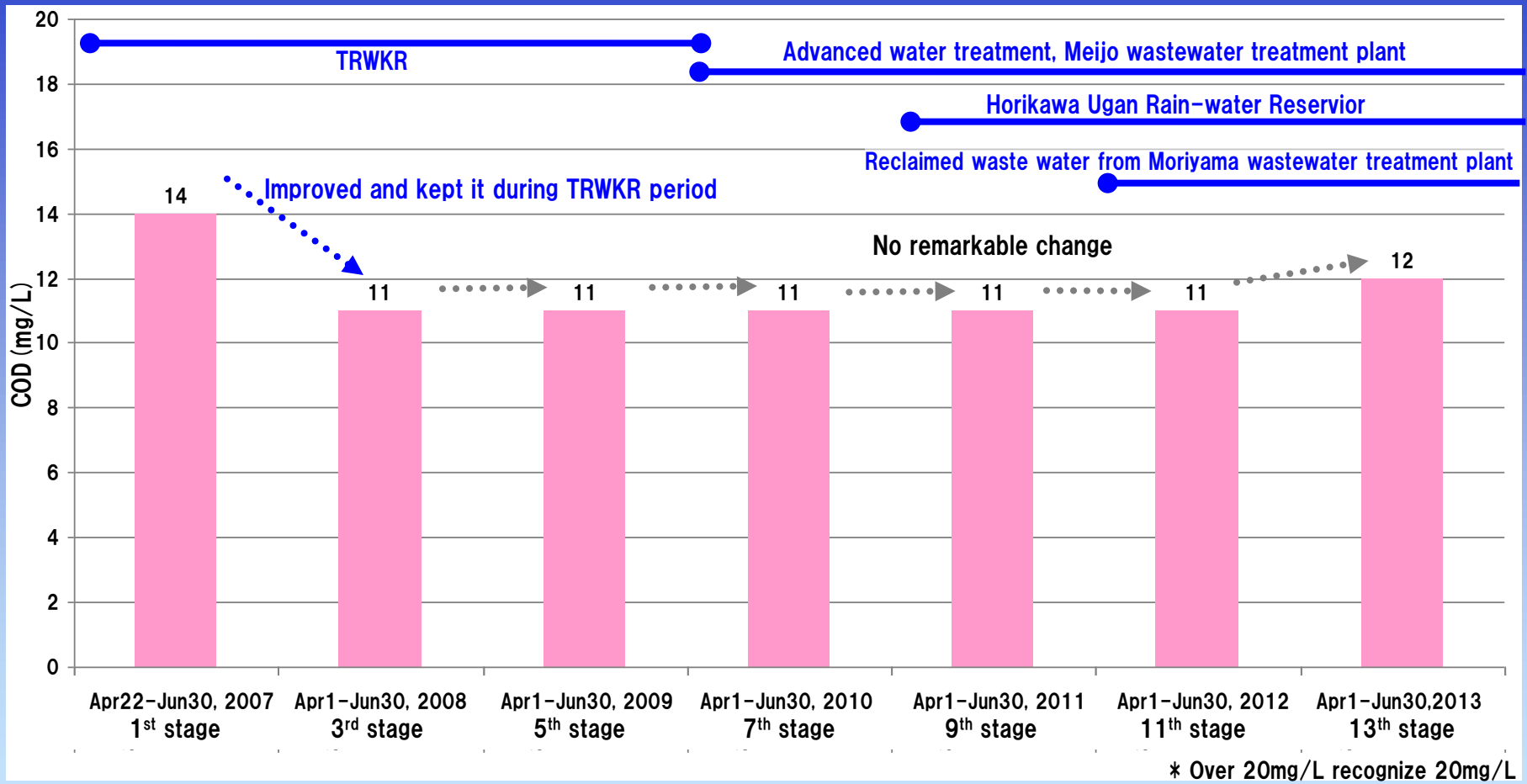
■ How did the COD change？
→ COD in "spring-early summer (1st,3rd,5th,7th,9th,11th,13th stage)" is mostly higher than in "autumn-early winter (2nd,4th,6th,8th,10th,12th,14th stage)".
COD between Sanage Brdg. and Matsushige Brdg. was lower than between Matsushige Brdg. and Minatoshin Brdg..

Note) The values over 20mg/L are treated as 20mg/L.

Change of COD : spring-early summer

1st/3rd/5th stage :TRWKR
7th/9th/11th/13th stage:No TRWKR
no rain on the day and the previous day

（Average : Oseko Bridge - Sanage Bridge）



＊ Over 20mg/L recognize 20mg/L

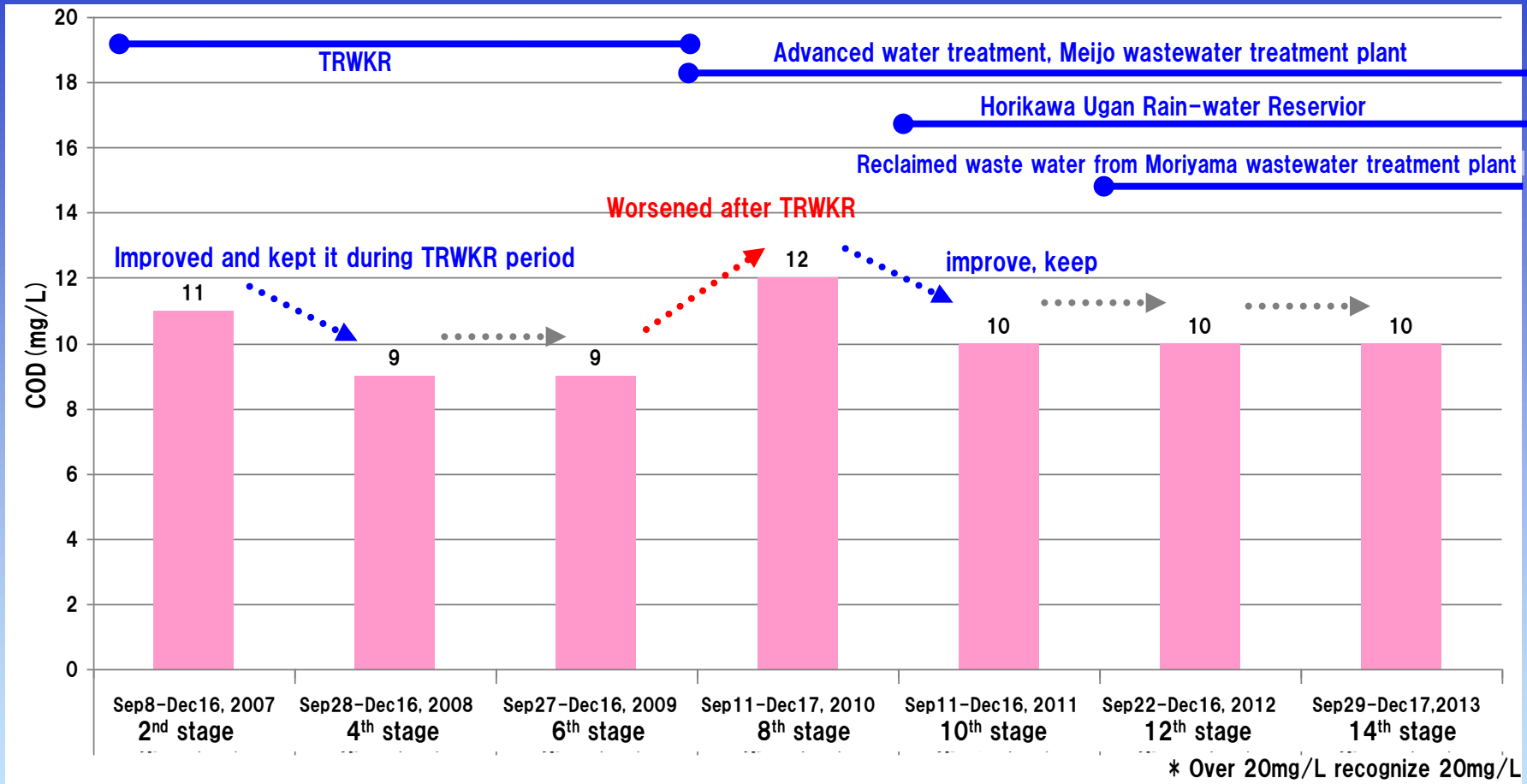
＊ Except from Minatoshin Bridge to Oseko Bridge, and from Sanage Bridge to Sakae Bridge because of few data

■ How did COD change from spring to early summer?
→ COD improved during TRWKR period but no remarkable change were seen after that.

Change of COD : autumn-early winter

2nd/4th/6th stage :TRWKR
8th/10th/12th/14th stage:No TRWKR
no rain on the day and the previous day

（Average : Oseko Bridge - Sanage Bridge）



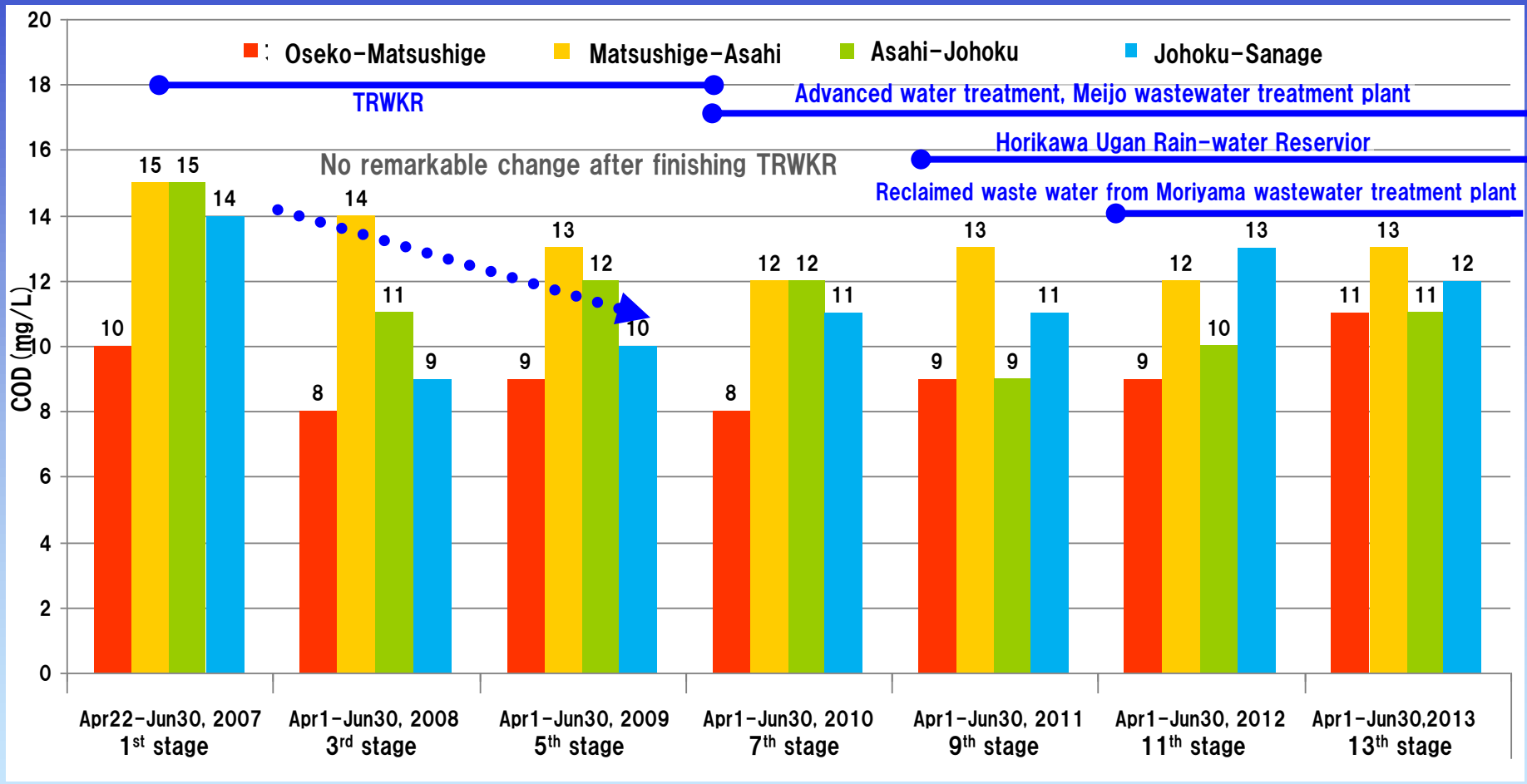
＊ Except from Minatoshin Bridge to Oseko Bridge, and from Sanage Bridge to Sakae Bridge because of few data

■ How does COD change from autumn to early winter?
→ COD improved and kept it during TRWKR, but become worse after TRWKR. Owing to water quality improvement measures, COD improved and kept its quality again.

Change of COD : spring-early summer

1st/3rd/5th stage :TRWKR
7th/9th/11th/13th stage:No TRWKR
no rain on the day and the previous day

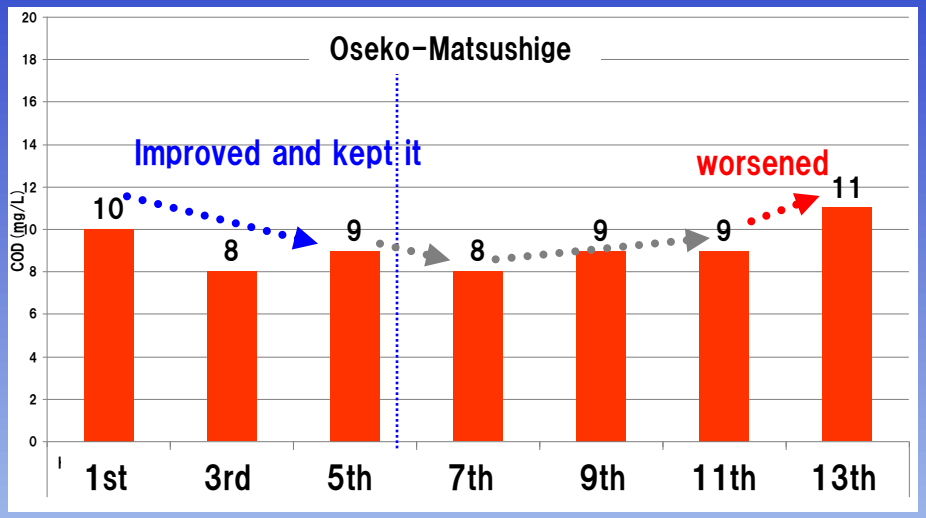
＊ Except from Minatoshin Bridge to Oseko Bridge, from Sanage Bridge to Sakae Bridge because of few data

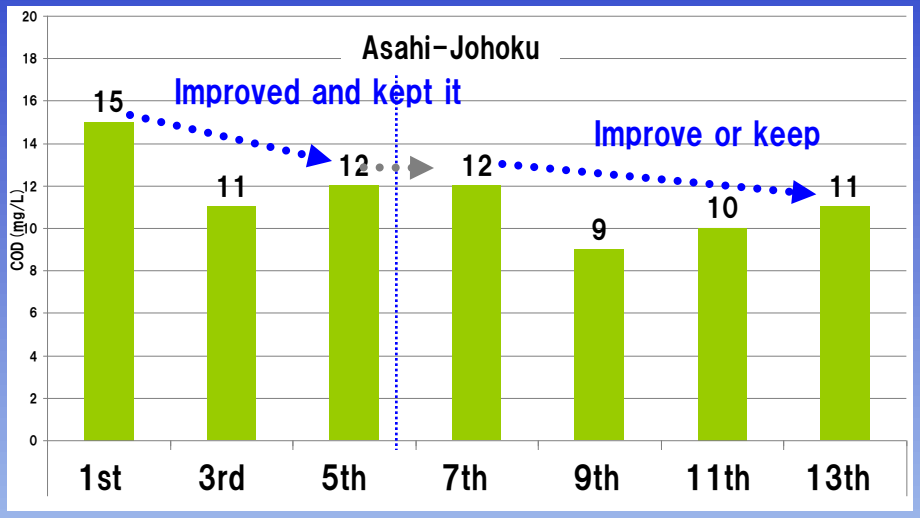


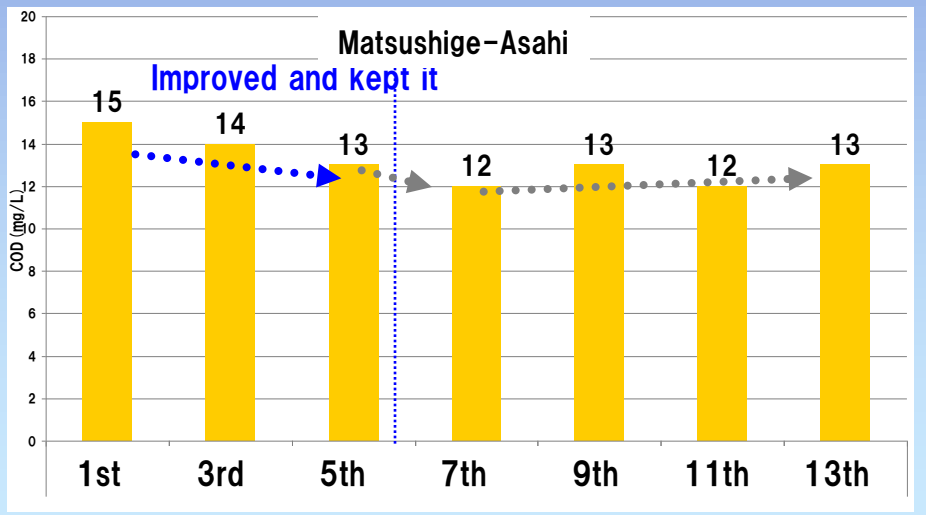
＊ Over 20mg/L recognize 20mg/L

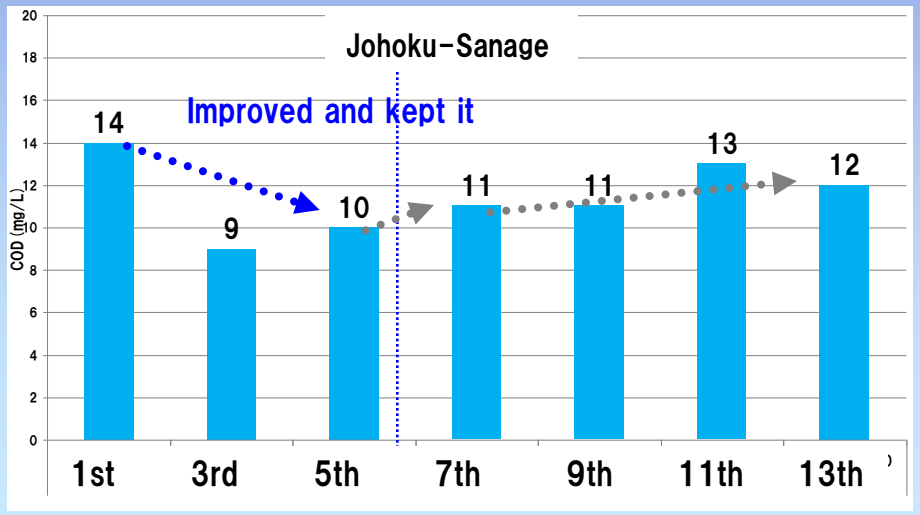
Change of COD : spring-early summer

1st/3rd/5th stage :TRWKR
7th/9th/11th/13th stage:No TRWKR
no rain on the day and the previous day



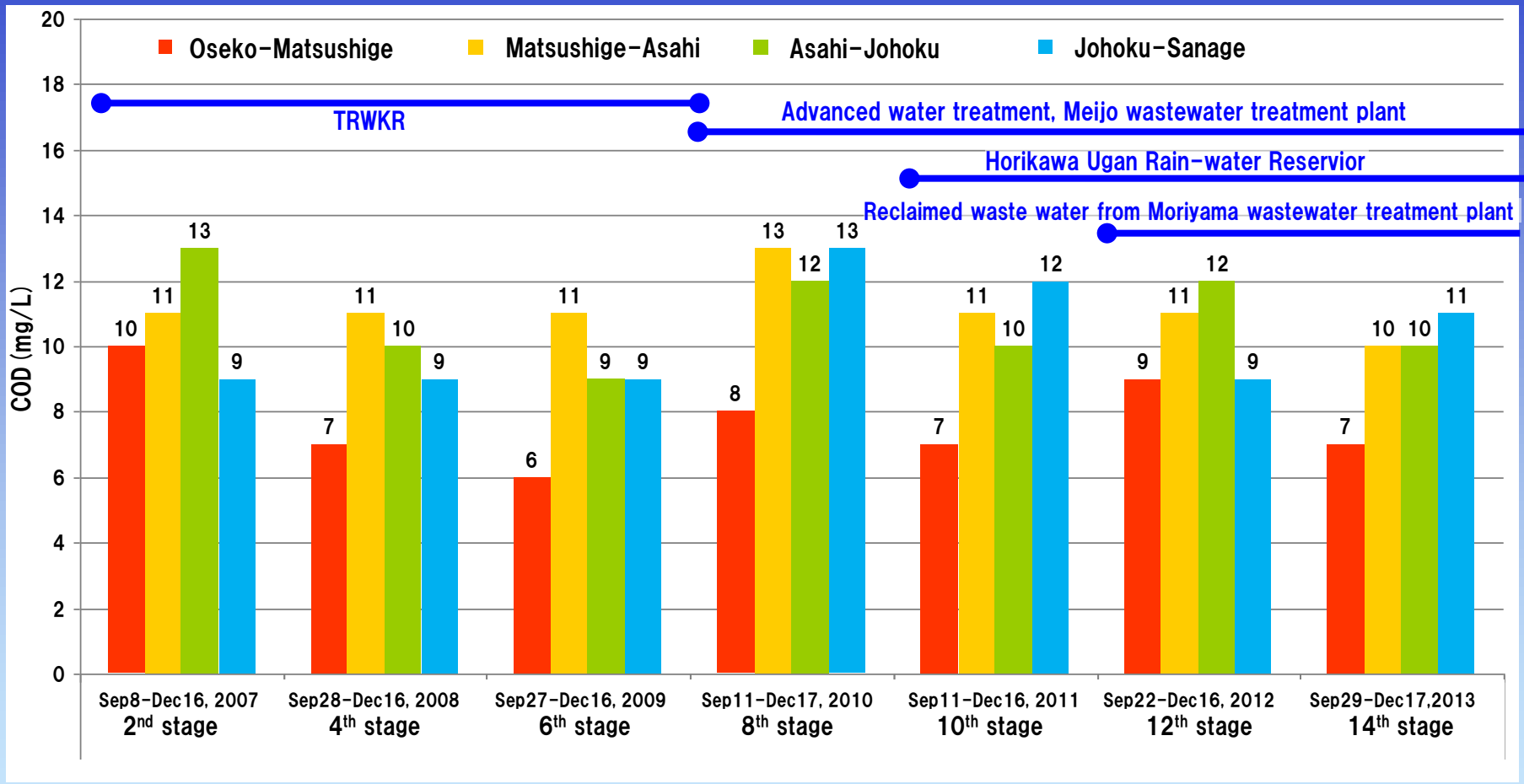






Change of COD : autumn-early winter

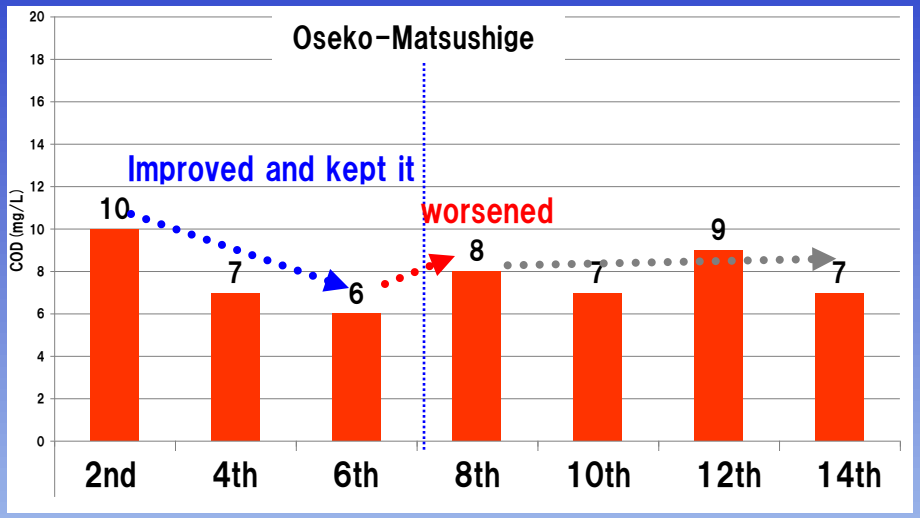
2nd/4th/6th stage :TRWKR
8th/10th/12th/14th stage:No TRWKR
no rain on the day and the previous day

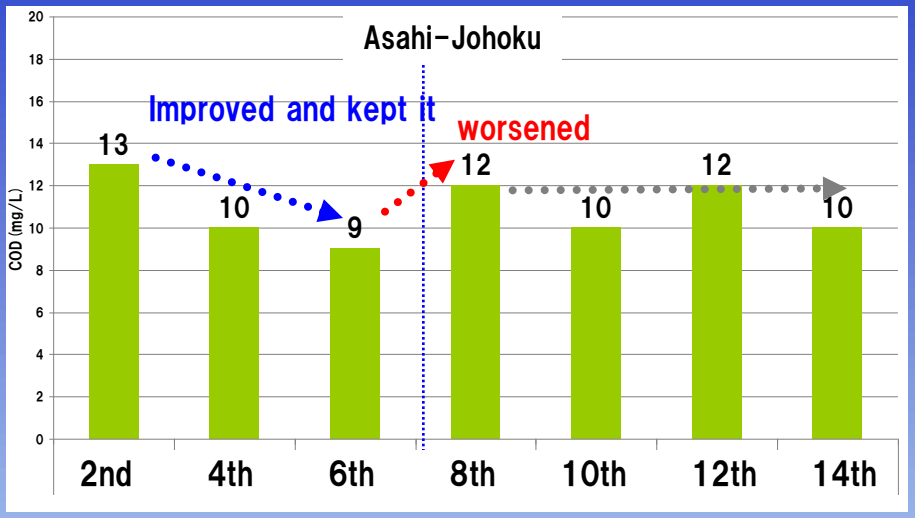


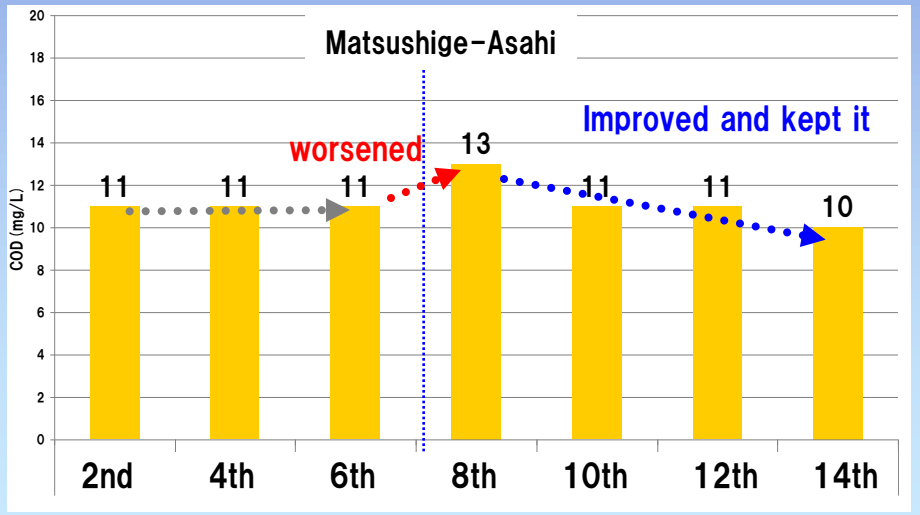
* Over 20mg/L recognize 20mg/L

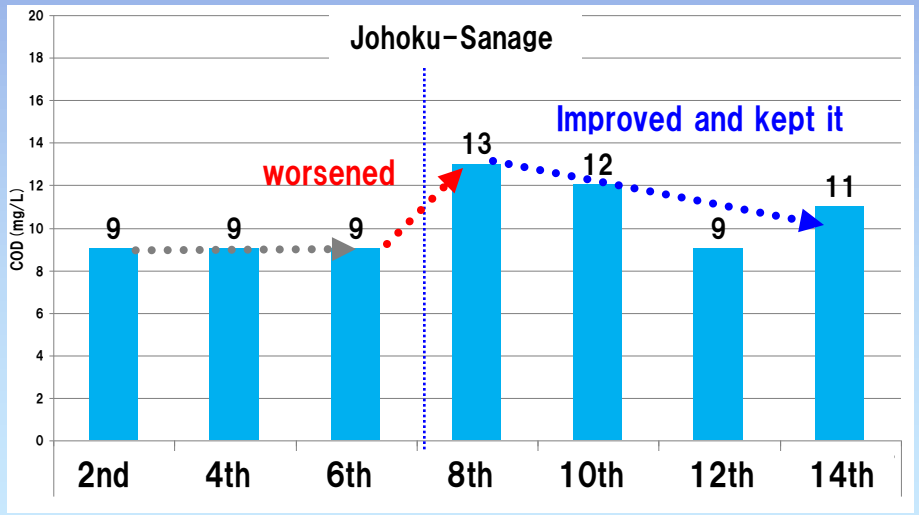
Change of COD : autumn-early winter

2nd/4th/6th stage :TRWKR
8th/10th/12th/14th stage:No TRWKR
no rain on the day and the previous day

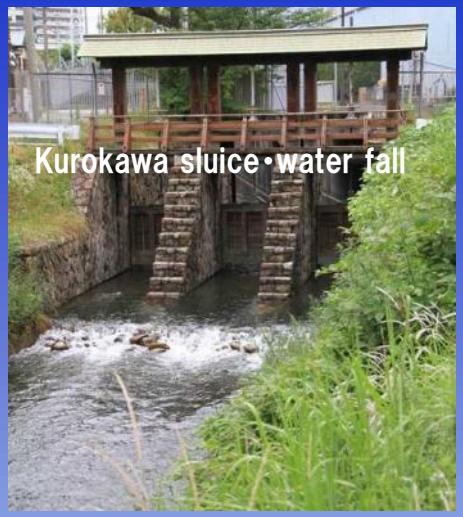


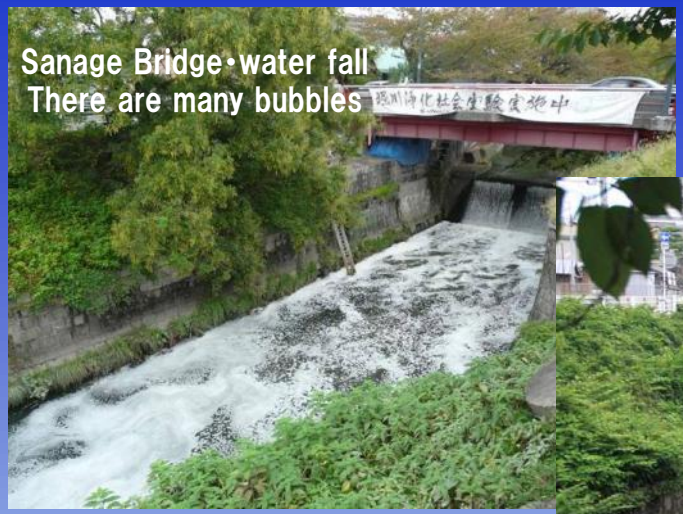




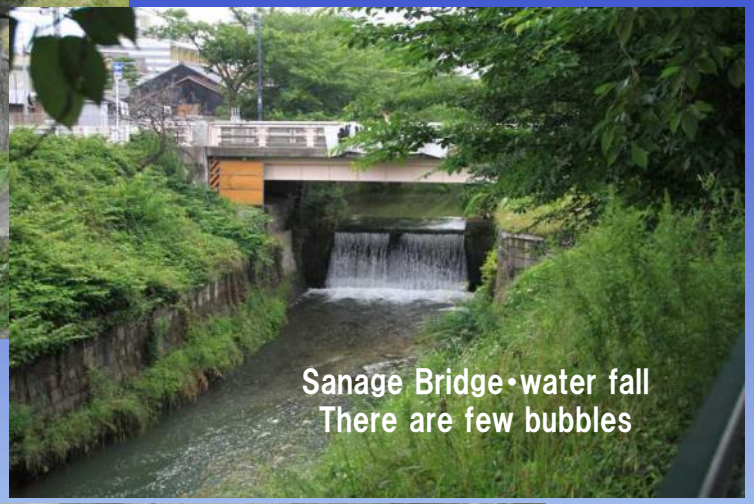


4. Bubbles


Kurokawa sluice・water fall

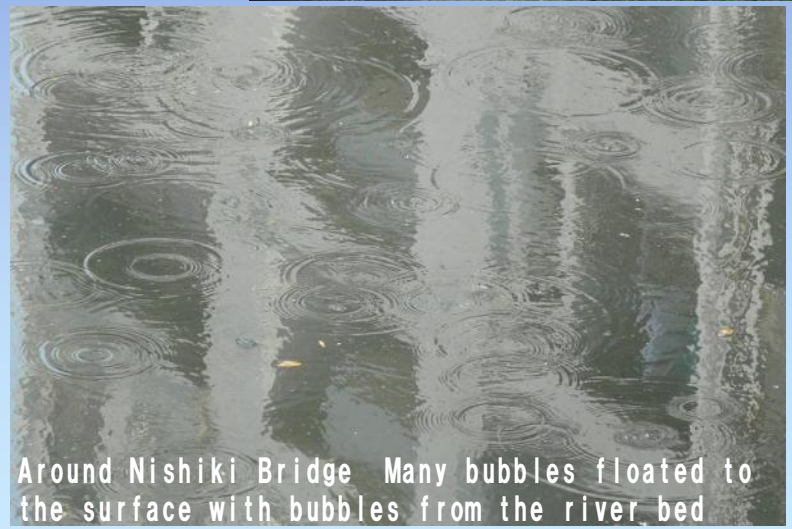

Sanage Bridge・water fall
There are many bubbles

Upstream section
Bubbles seem to be created by detergent and the viscous material of microbe and fallen leaves.


Sanage Bridge・water fall
There are few bubbles

Middle and downstream section
Bubbles seem to be created by detergent and the viscous material of microbe and fallen leaves and hydrogen sulfide or methane gasses from sludge.


Around Nishiki Bridge Sludge floated to the surface with bubbles from the river bed


Around Nishiki Bridge Many bubbles floated to the surface with bubbles from the river bed

Photos: secretariat

Occurrence of Bubbles

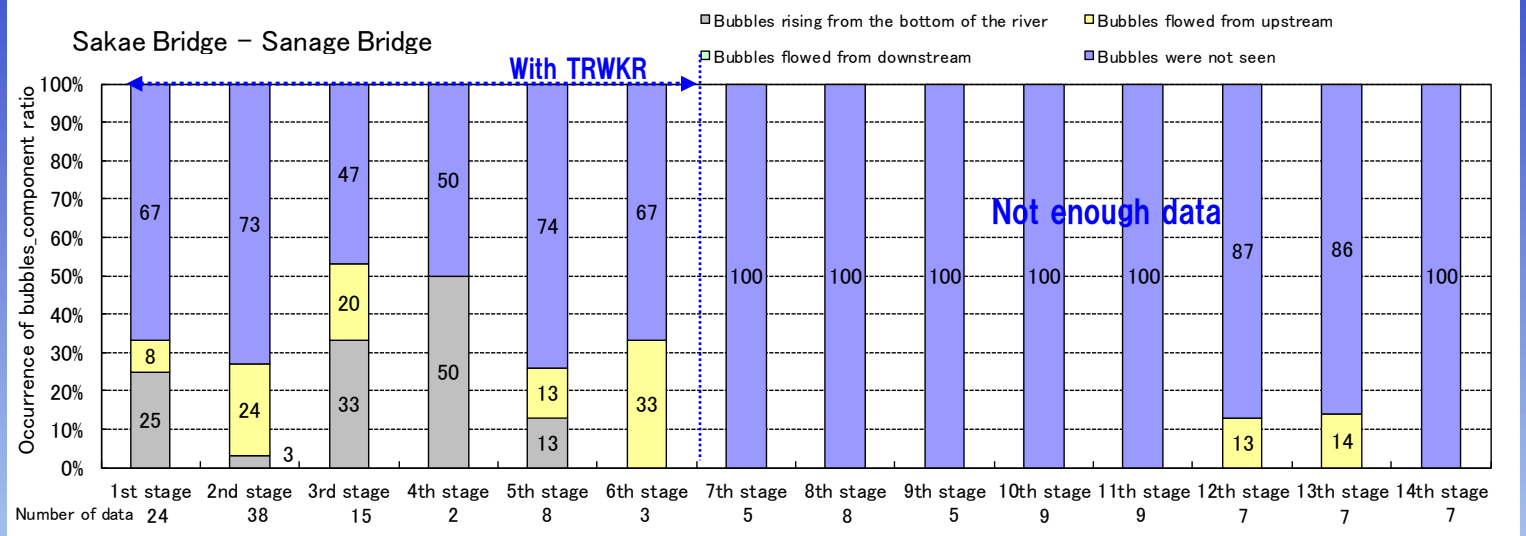
1st-6th stage : With TRWKR　No rain on the day and the previous day
7th-14th stage: No TRWKR　No rain on the day and the previous day

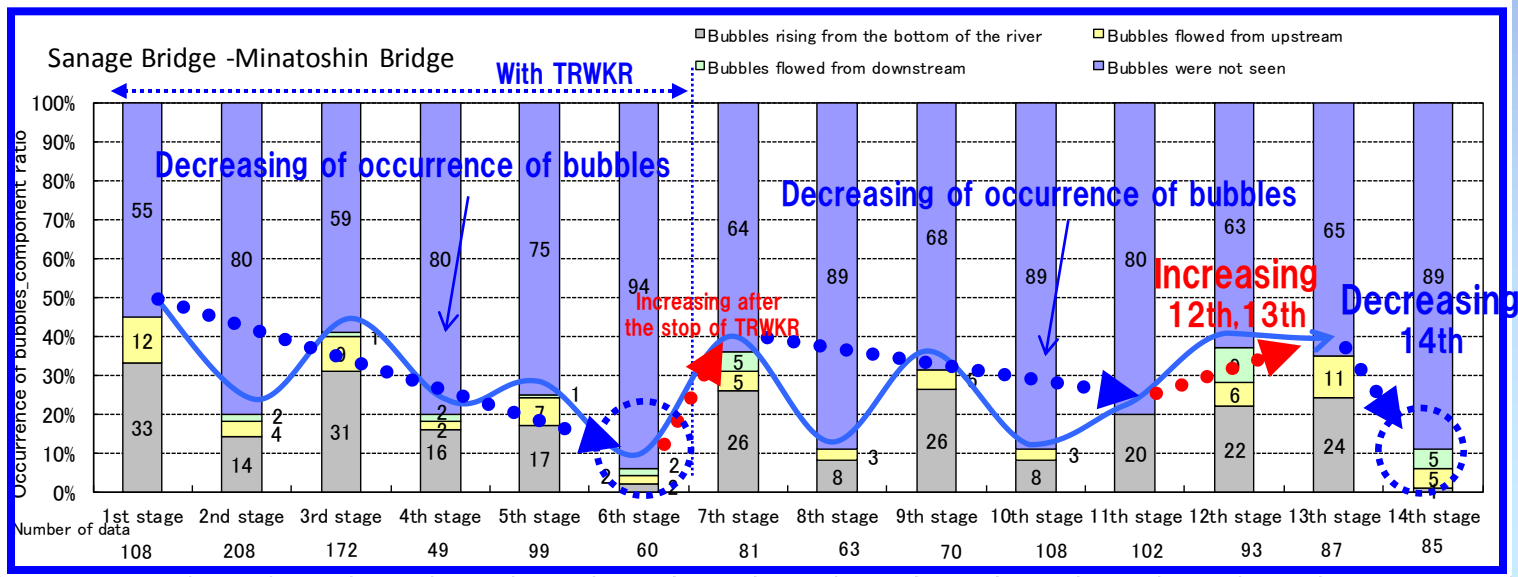
With TRWKR

Introduction of advanced water treatment at Meijo water treatment Center

In service of Horikawa Ugan Rain-water Reservoir for pollution control

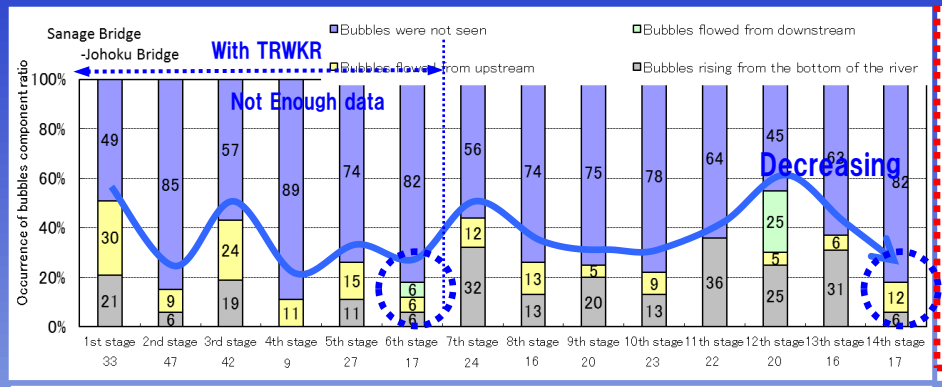
Utilization of reclaimed wastewater of Moriyama water treatment Center

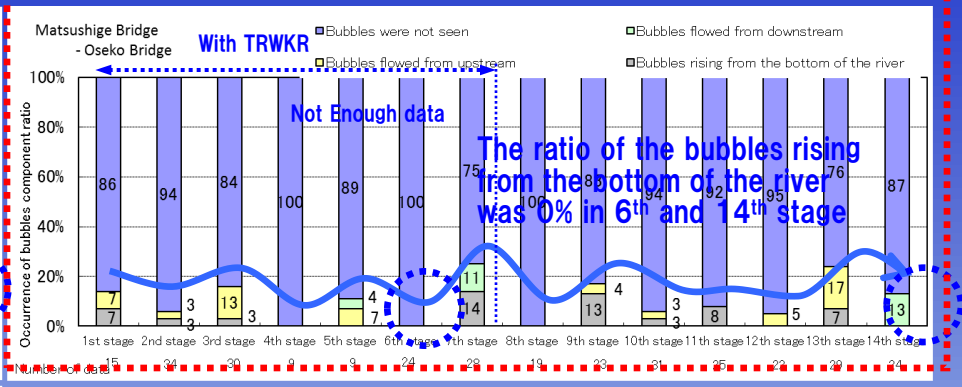


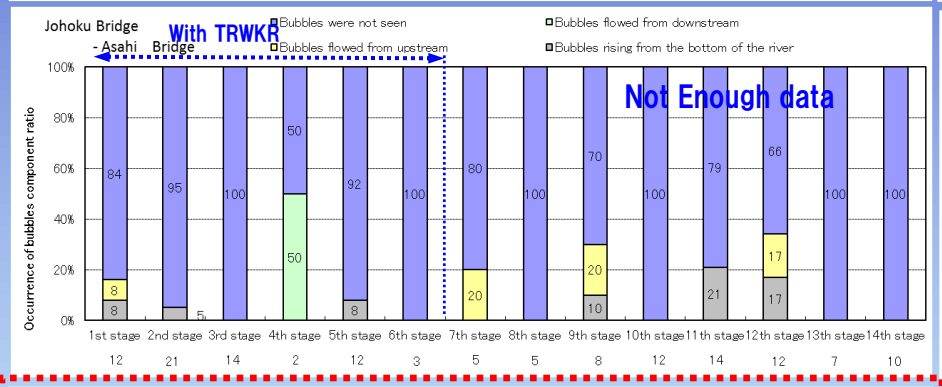


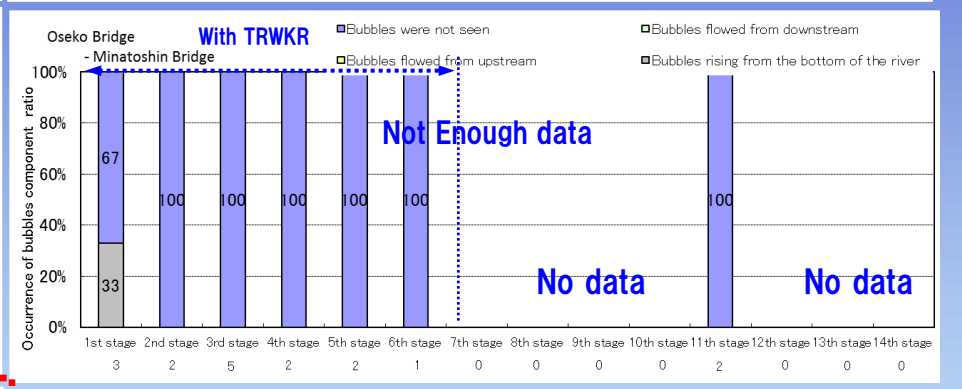
Occurrence of Bubbles
(Sanage Bridge – Minatoshin Bridge)

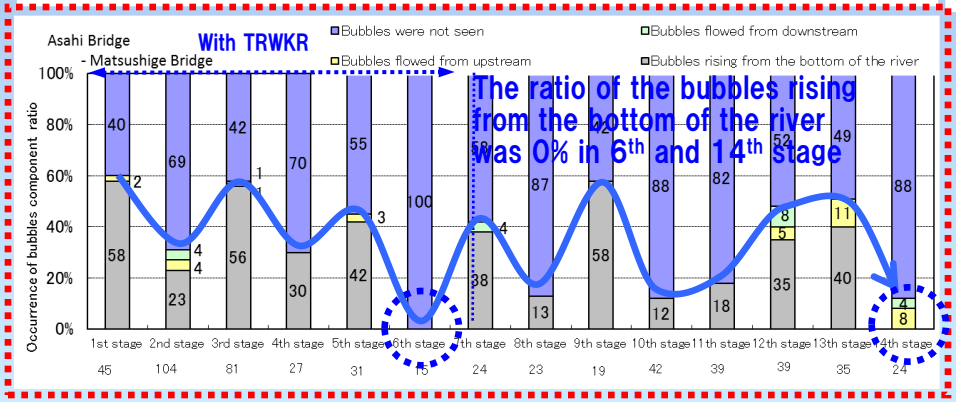
1st – 6th stage : With TRWKR
No rain on the day and the previous day
7th – 14th stage : NO TRWKR
No rain on the day and the previous day









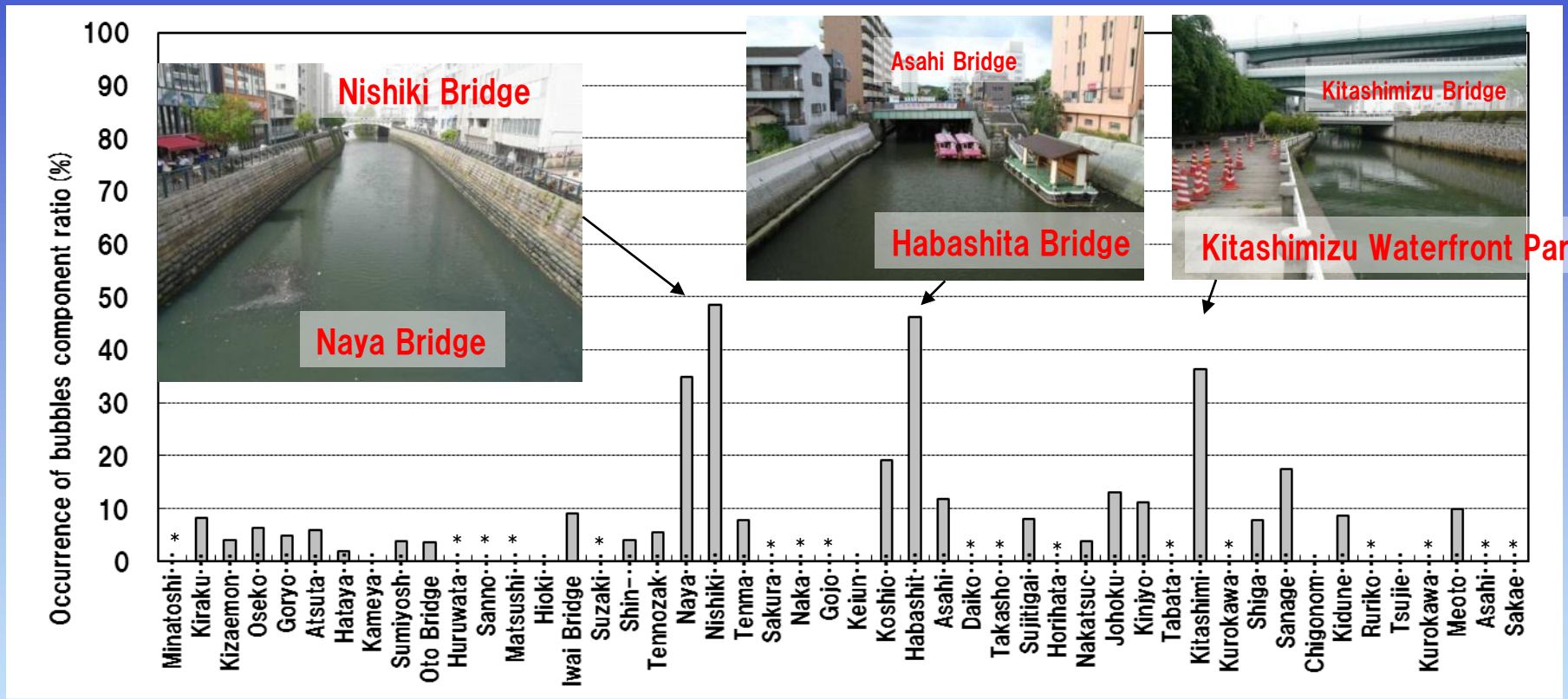


Bubbles rising from the bottom of the river were observed frequently between Aasahi bridge and Matsushige bridge. But the ratio of the bubbles rising from the bottom of the river was 0% in 6th and 14th stage.

Bubbles rising from the bottom of the river were observed frequently between Aasahi bridge and Matsushige bridge. But the ratio of the bubbles rising from the bottom of the river decreased. Especially, the ratio was 0% at 14th stage between Asahi Bridge and Oseko Bridge. It is the same phenomenon at 6th stage, three years after TRWKR started. It is seems that the sludge of the bottom of the river was good condition.

Difference of “bubbles flowed from the bottom of the river” from upstream to downstream・・・All stage

All data of 1st ～14th stage

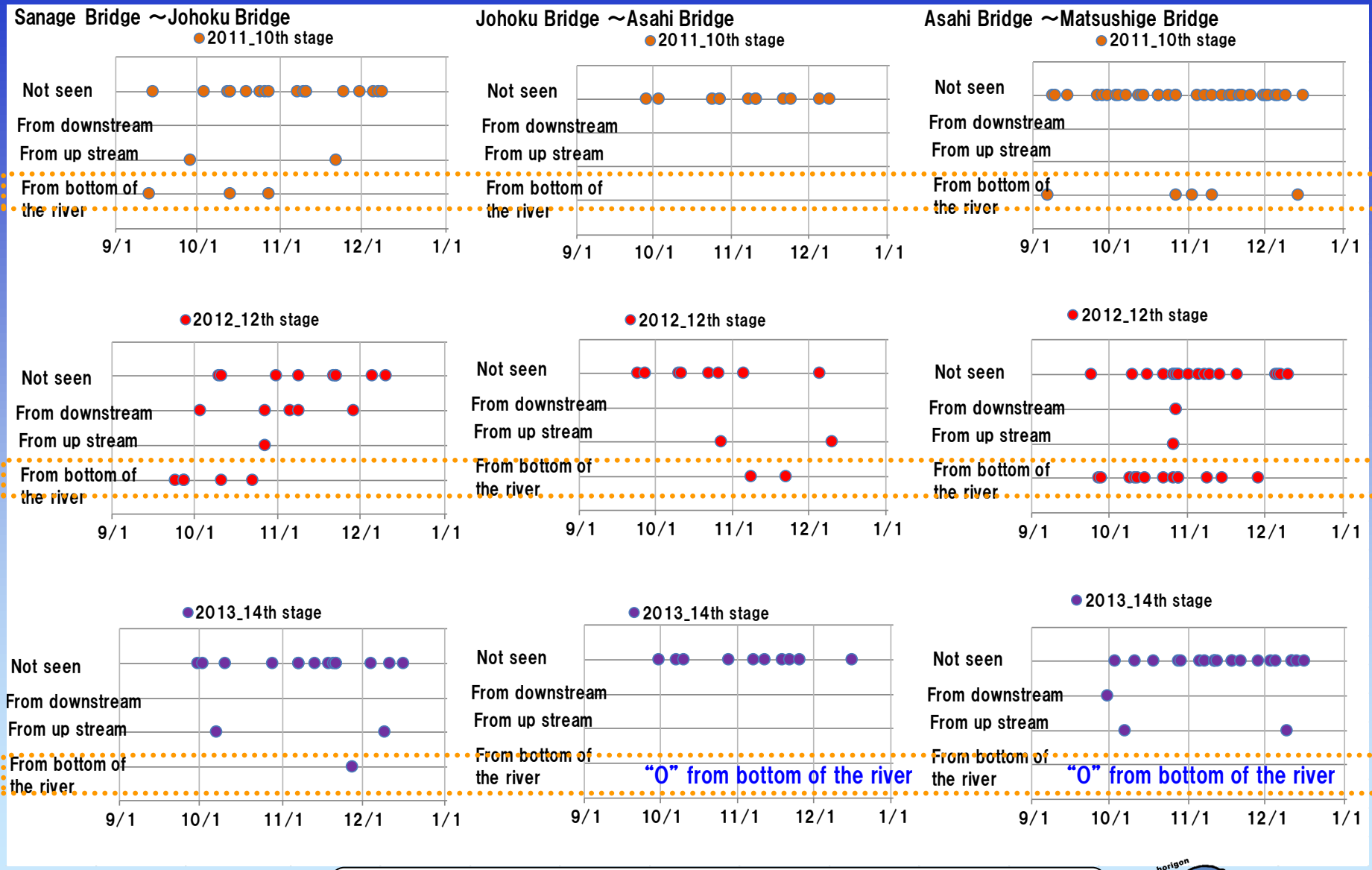


＊:10 or less times of investigation

Occurrence of bubbles component ratio (%)
＝Days when bubbles flow from the bottom of the river／All investigation Days ×100

There were many “bubbles flowed from the bottom of the river” near Kitashimizu Bridge, Habashita Bridge, Nishiki Bridge, and Naya Bridge in “Spring ～ Early Summer” season.

Occurrence of Bubbles (“Autumn ～ Early Winter” season. …10th,12nd,14th stage)

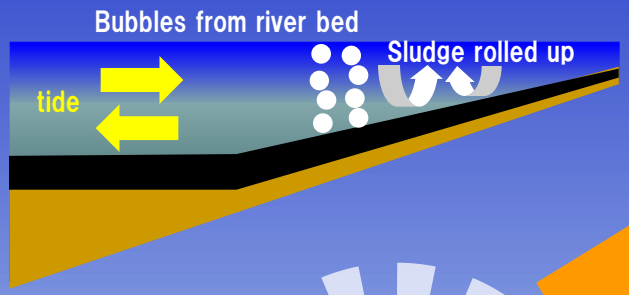


The number of “Bubbles from the bottom of the water” at 14th stage was few. Johoku bridge～Matsushige bridge was 0.

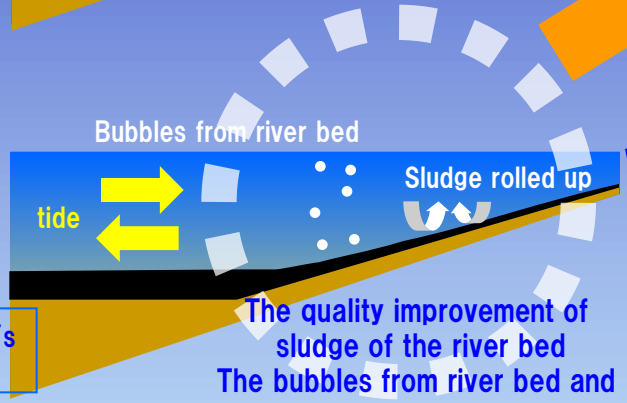
The quality improvement of water and sludge of the river bed of Horikawa River

Before TRWKR～6th stage

Before TRWKR



6th stage



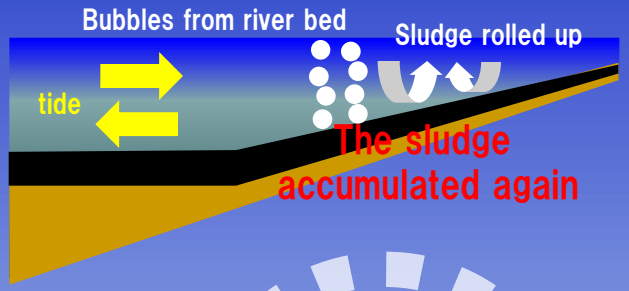
TRWKR：0.4m³/s
For 3 years

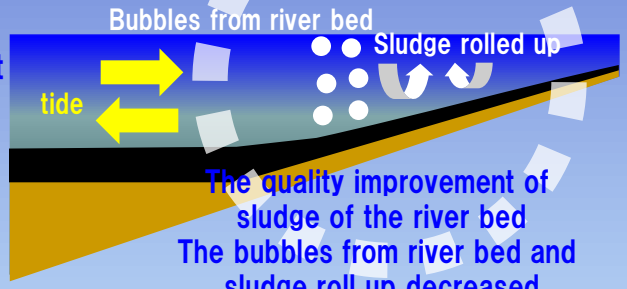
The quality improvement of sludge of the river bed
The bubbles from river bed and sludge roll up decreased

After the stop of TRWKR (7th stage)

8th～13th stage
New measures for water quality improvement
The water quality was improved

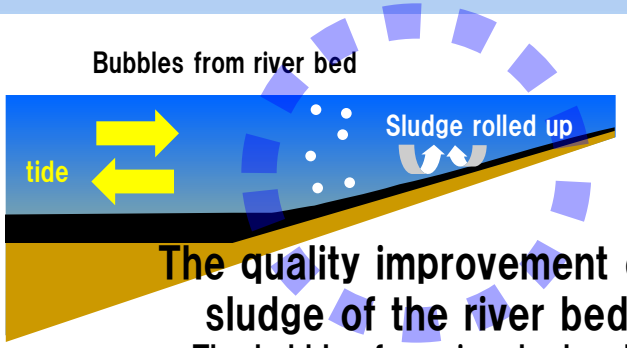
After the stop of TRWKR (7th stage) ～14th stage





The quality improvement of sludge of the river bed
The bubbles from river bed and sludge roll up decreased

14th stage
The record heavy rainfall on Sep. 4th washed away the outer layer of the sludge of riverbed.



The quality improvement of sludge of the river bed
The bubbles from river bed and sludge roll up decreased

14th stage
The quality improvement of water and sludge of the river bed of Horikawa River
(Bubbles, smell, transparency has improved)

We think that the quality of water and sludge of the river bed of Horikawa River improved because of the record heavy rainfall on Sep. 4th and new measures for water quality improvement at 14th stage.

5. Smell

Occurrence of smell

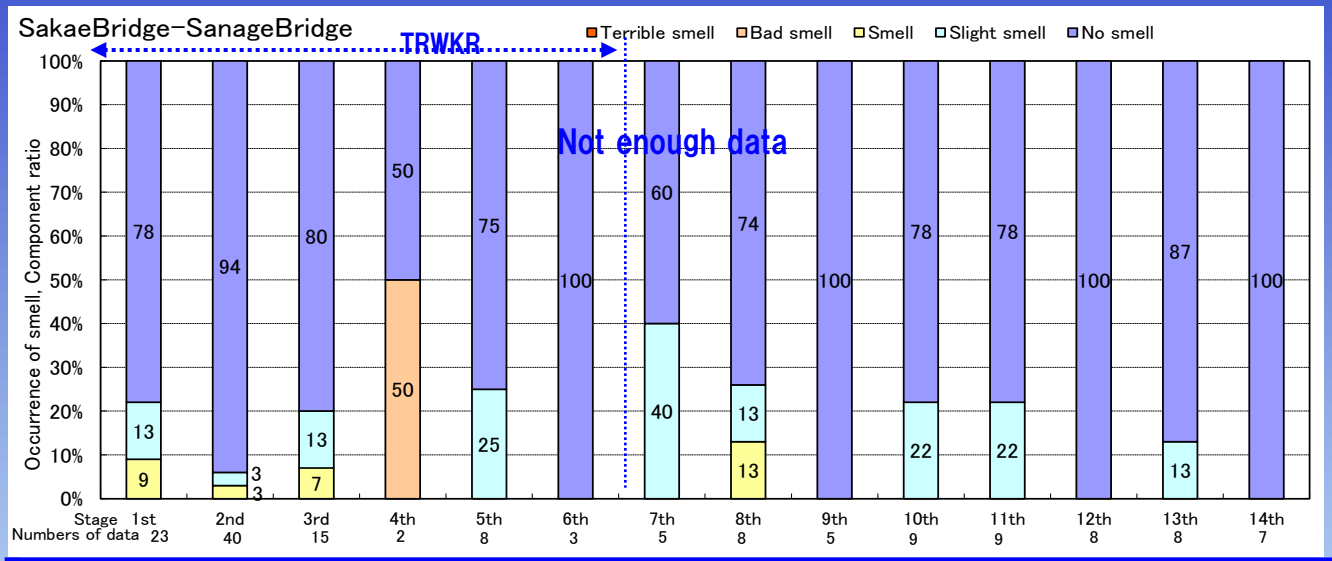
1st–6th stage : With TRWKR
No rain on the day and the previous day
7th –14th stage : No TRWKR
No rain on the day and the previous day

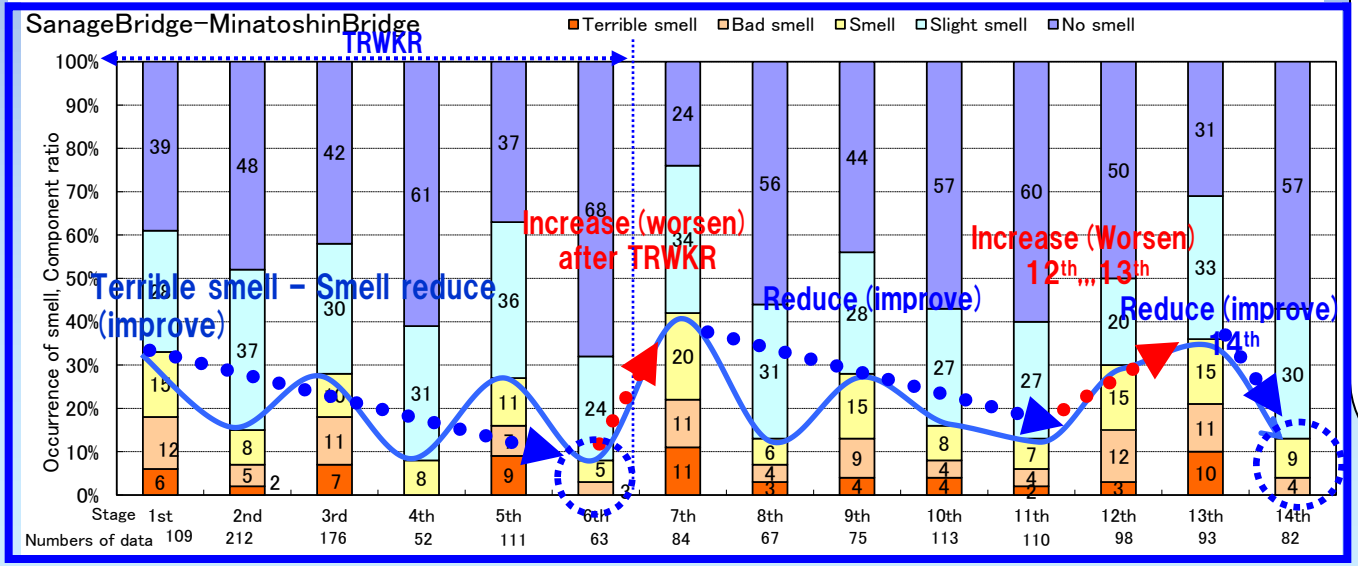
With TRWKR

Introduction of advanced water treatment at the Meijo Water Treatment Center

In-service of Horikawa Rain-water Reservoir on the Right Bank

Utilization of Reclaimed wastewater of Moriyama Water Treatment Center





■ Change of smell

The percentage of "Terrible smell" – "Smell" had been higher in Spring – Early summer than Autumn – Early winter and had been reduced during TRWKR.

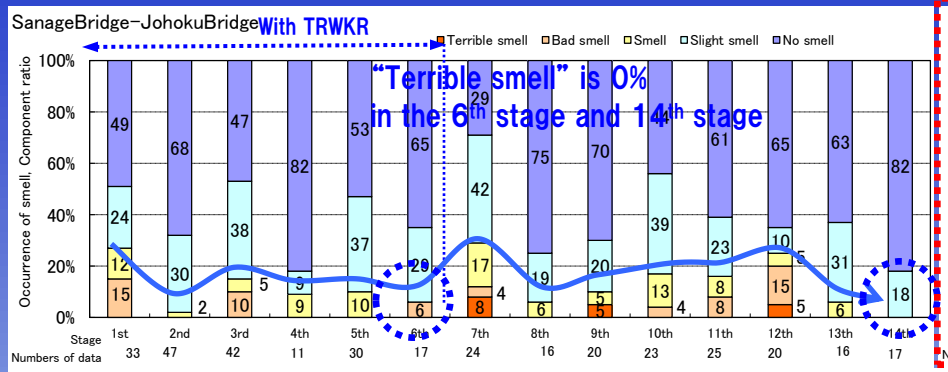
The percentage of "Terrible smell" increased in the 7th stage, just after TRWKR. But smell had been better after the 7th stage. It is assumed that the new measures for water quality improvement are effective.

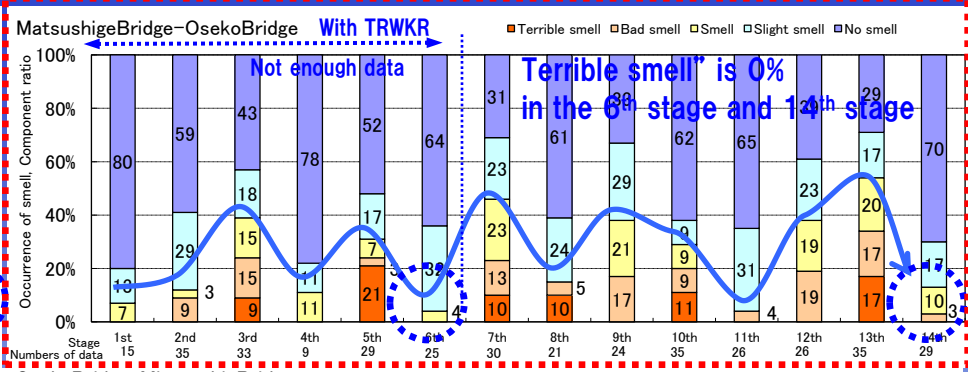
Smell had got worse between the 12th and 13th stage. It's probably because the temperature had been higher than average year and the sludge on the bottom of Horikawa had been in bad condition in those stages.

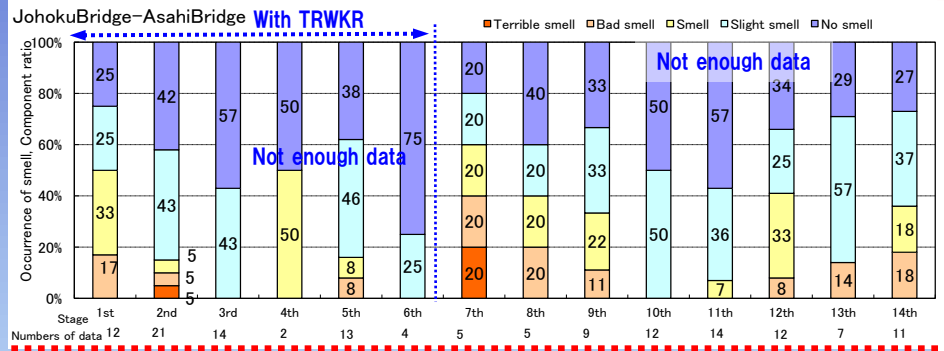
In the 14th stage smell got better. Particularly "Terrible smell" was 0%, which is the same value as the 6th stage (the third year of TRWKR). It is assumed that the sludge on the bottom was in good condition.

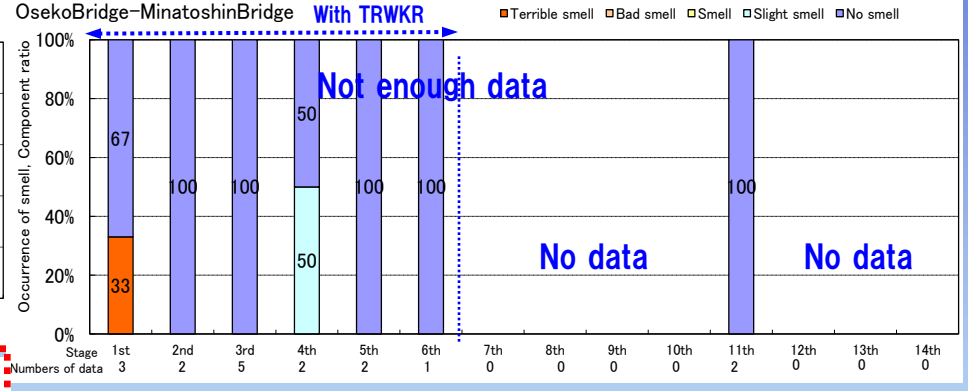
Occurrence of smell
(Between Sanage Bridge and Minatoshin Bridge)

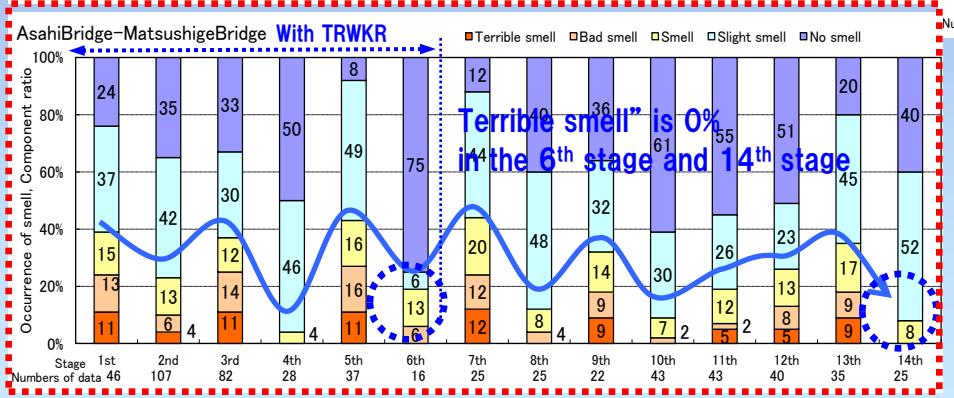
1st–6th stage : With TRWKR
No rain on the day and the previous day
7th –14th stage : No TRWKR
No rain on the day and the previous day





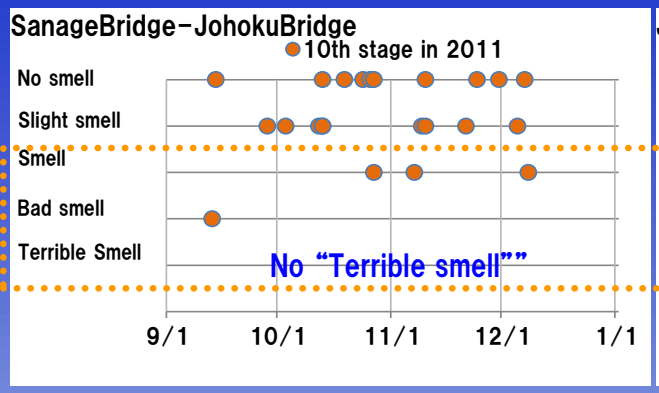


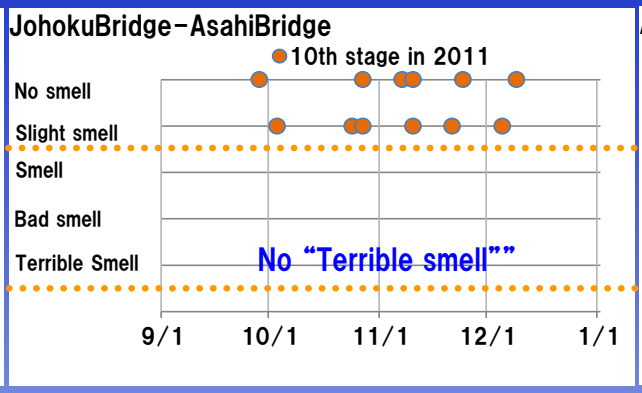


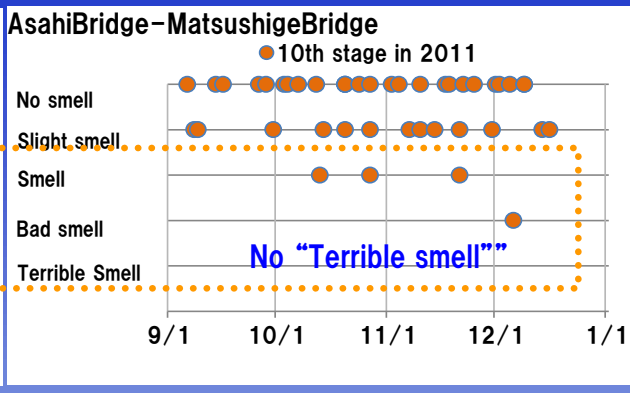


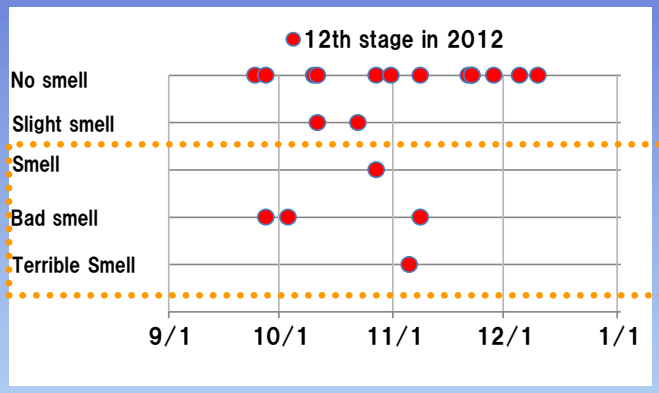
Percentage of "Terrible smell" – "Smell" has been high between Asahi bridge and Oseko Bridge.
But it was 0% in the 6th stage and 14th stage.

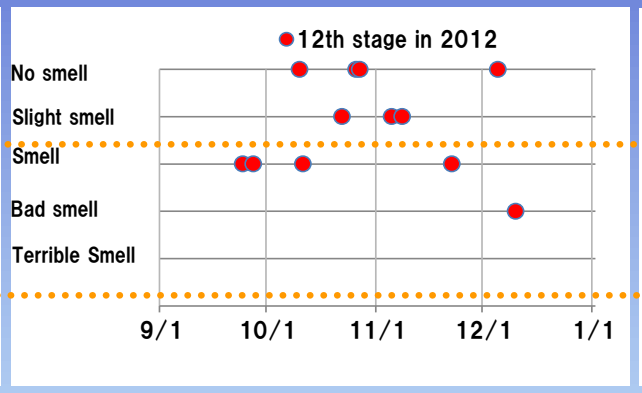
■Where are there many bubbles from the bottom of Horikawa?
The percentage of "Terrible smell" – "Smell" has been higher between Asahi Bridge and Oseko Bridge than in other sections.
But it reduced between Sanage Bridge and Oseko Bridge in the 14th stage, particularly "Terrible smell" was 0%, which is the same value as the 6th stage (the third year of TRWKR). It is assumed that the sludge on the bottom was in good condition.

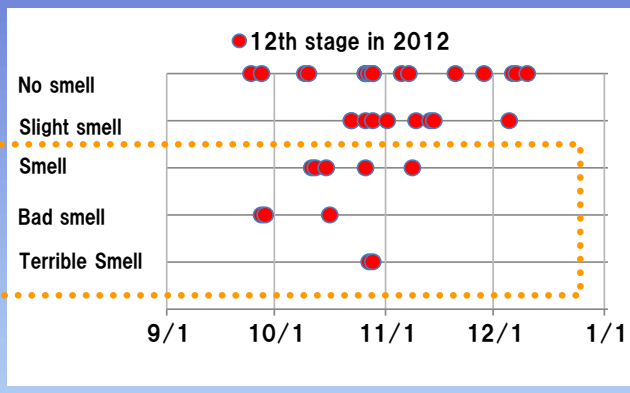


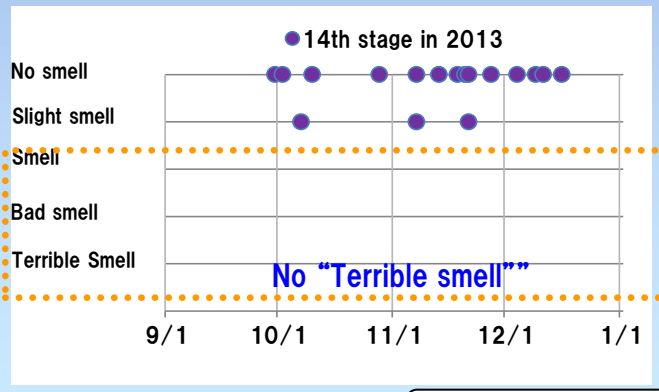


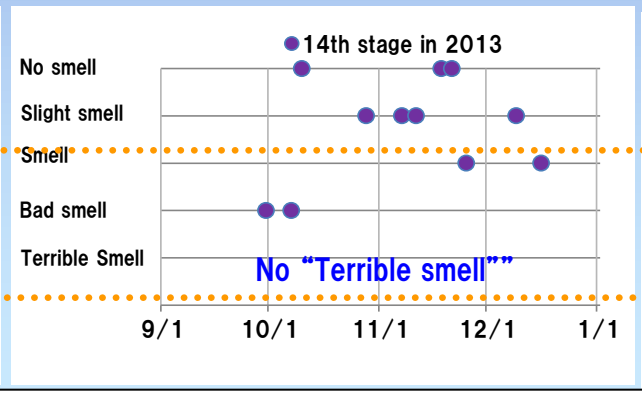


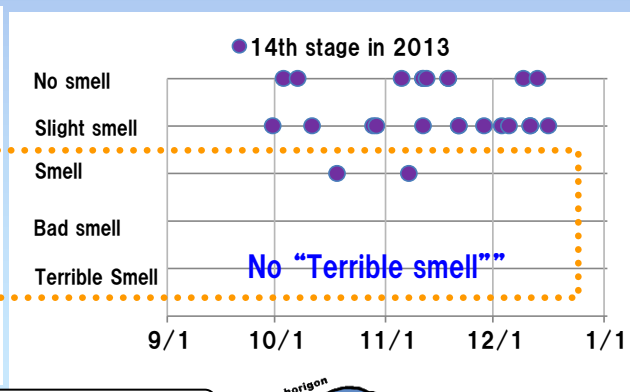












Occurrence of smell

In the10th, 12th and 14th stage（Autumn – Early winter)

“Terrible smell” – “Smell” reduced in the 10th stage and 14th stage.

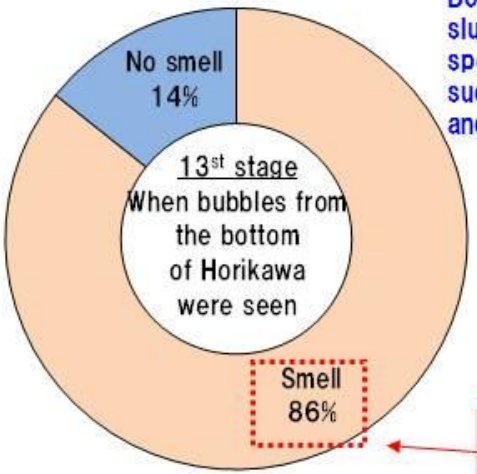
Reference : Relation between bubbles from the bottom of Horikawa and smell

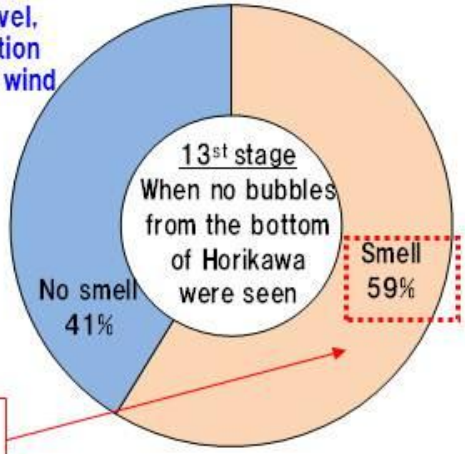
Data : 13th HSC meeting

Relation between Bubbles and Smell　13th stage

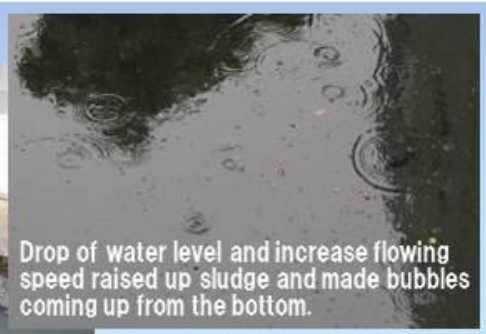
No rain on the day and the previous day

Both bubbles and smell are related to sludge on the bottom of, water level, speed of flow, and weather condition such as temperature, direction of wind and so on.





It smelled more frequently when bubbles were seen.



■ Relation between bubbles and smell
When bubbles were seen, it smells 1.5 times as often as when bublbles were not seen.
It often smells when bubbles come up from the bottom around Horikawa.

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In the previous reports, we found out that bubbles from the bottom are related to the change of water level and flowing speed caused by the tide.

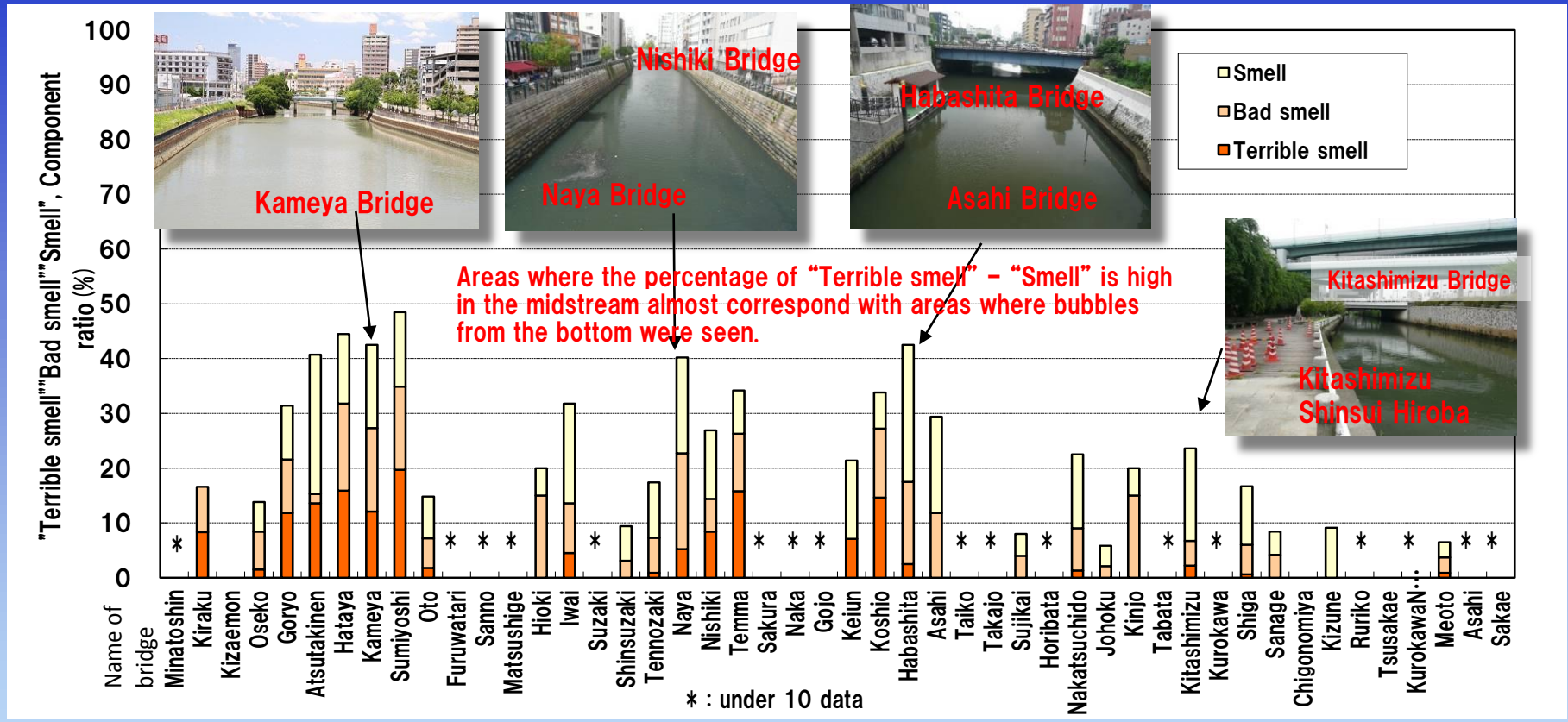
■Relation between the tide and bubbles from the bottom

- Drop of water level causes drop of water pressure, and bubbles come up from the bottom.
- Increasing the flowing speed raises sludge on the bottom and bubbles come up.

Difference of smell at each Bridge over Horikawa

Percentage of "Terrible smell", "Bad smell" and "Smell" = Number of days we observed "Terrible smell" – "Smell" / Number of all days we surveyed × 100 (%)

From 1st stage to 14th stage including the intervals between each stage No rain Both With TRWKR and No TRWKR



Kinds of smell

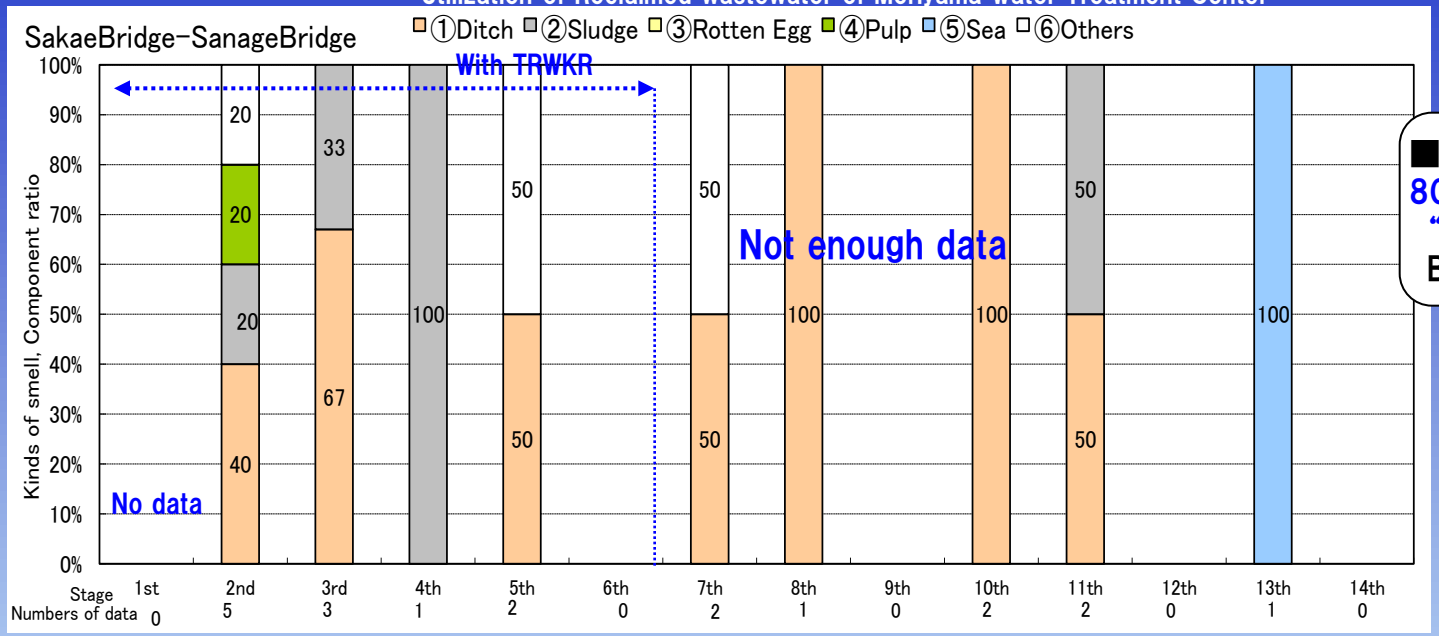
1st–6th stage : With TRWKR
No rain on the day and the previous day
7th –14th stage : No TRWKR
No rain on the day and the previous day

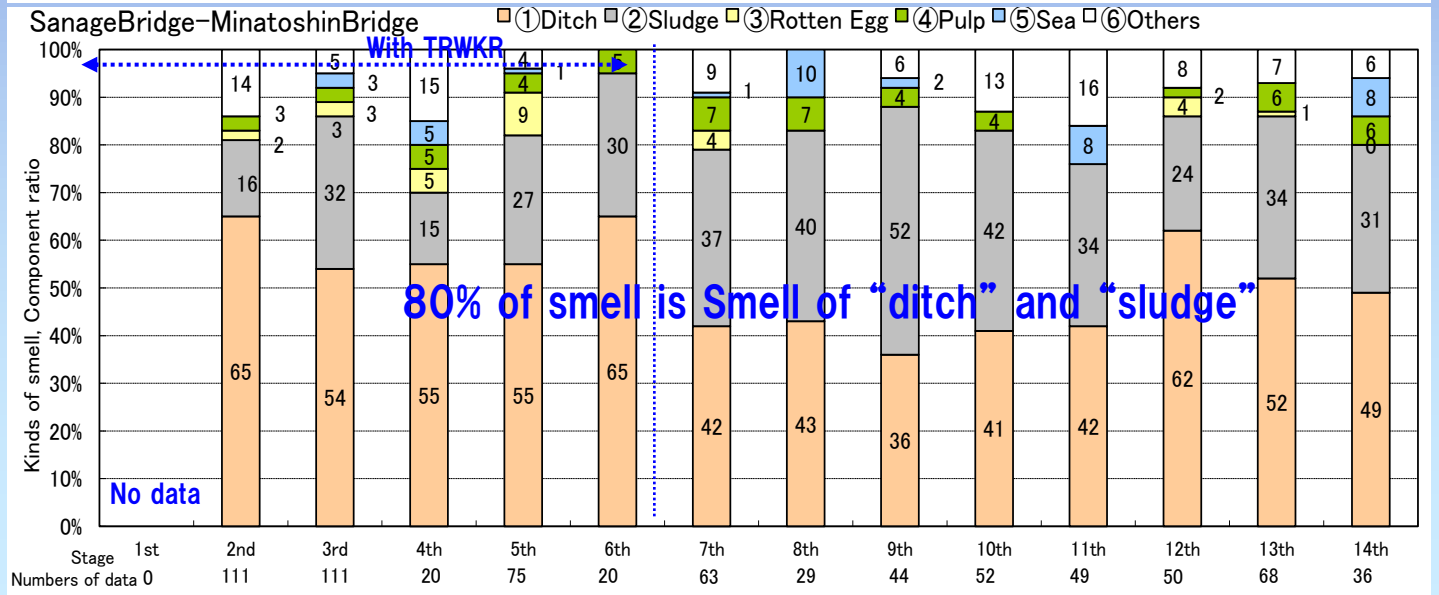
With TRWKR

Introduction of advanced water treatment at the Meijo Water Treatment Center

In-service of Horikawa Rain-water Reservoir on the Right Bank

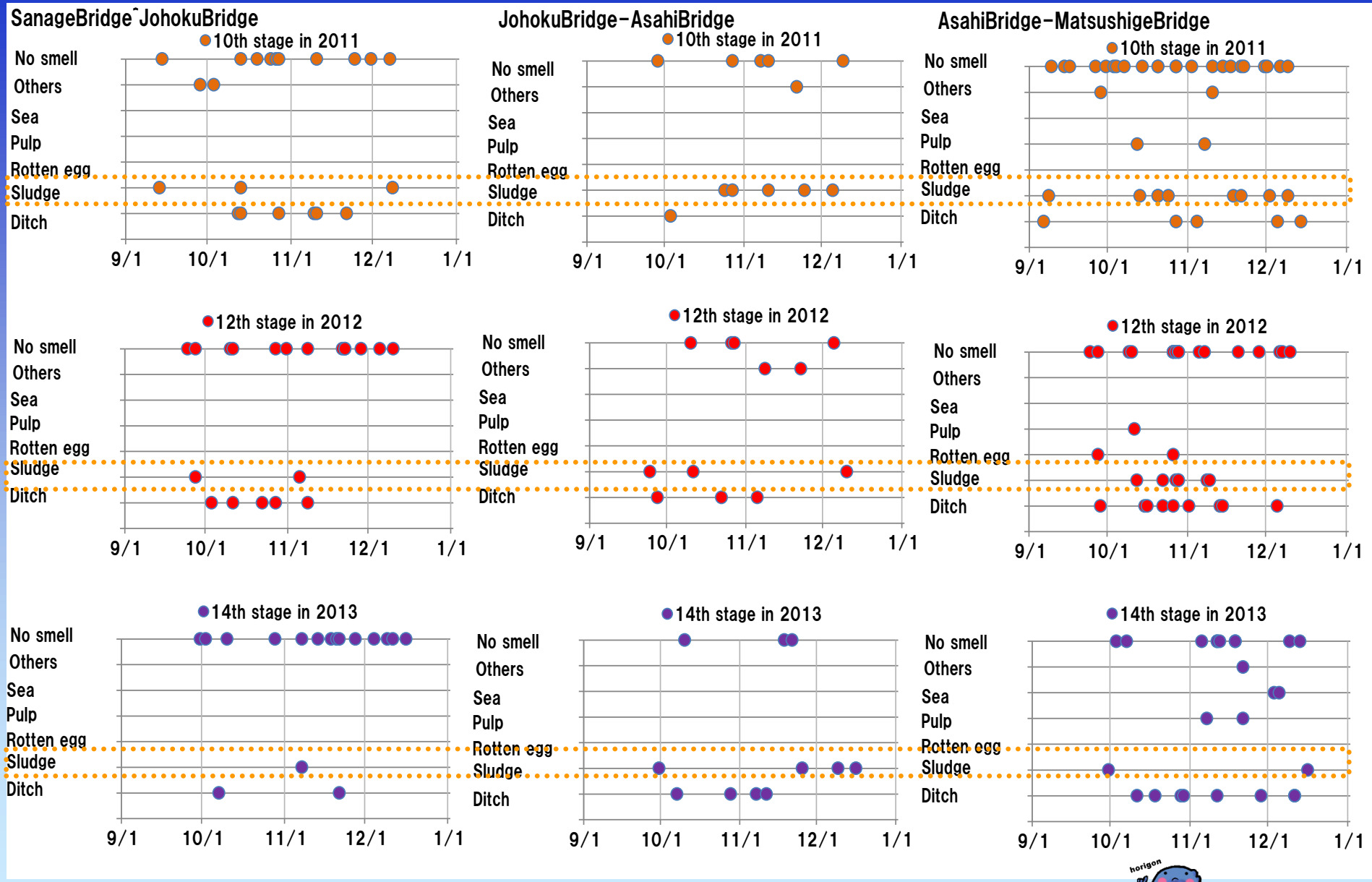
Utilization of Reclaimed wastewater of Moriyama Water Treatment Center





■ Occurrence of smell
80% of smell is “ditch” and “Sludge” between Sanage Bridge and Minatoshin Bridge

Occurrence of each kind of smell from the 10th stage to 14th stage (Autumn – Early winter)

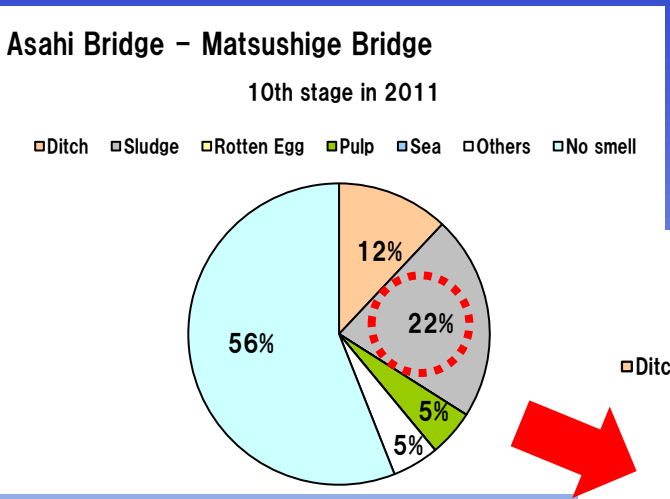


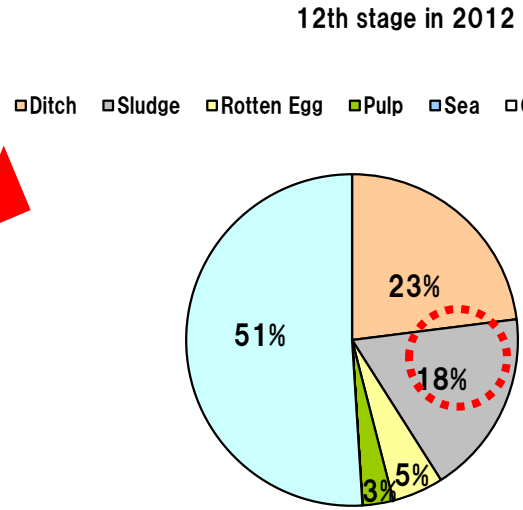
Smell of "ditch" reduced in 14th stage

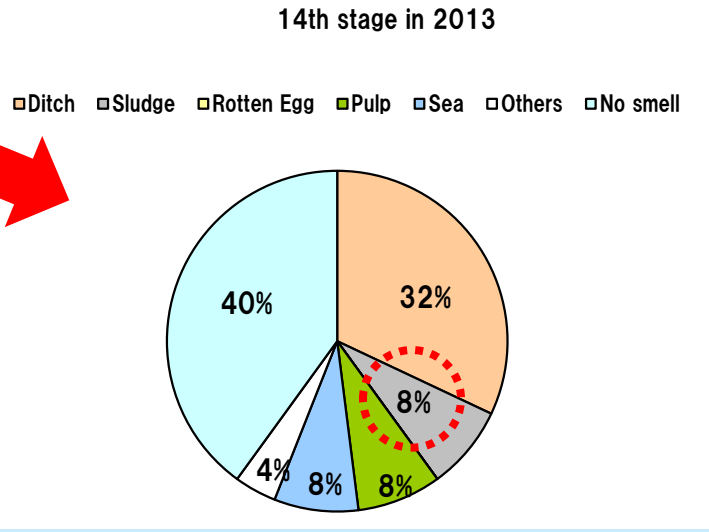
Occurrence of each kind of smell

Between Asahi Bridge and Matsushige Bridge from the 10th stage to 14th stage (Autumn – Early winter)

Asahi Bridge – Matsushige Bridge







Smell of "ditch" reduced particularly between Asahi Bridge and Matsushige Bridge in the 14th stage.

6. Colors

There were reports, it smelled rotten egg (Hs) and fish suffered in case of light grey yellow green,

Photos, taken at the Nishiki-bashi bridge

Colors change due to daylight

Sunny

Cloudy

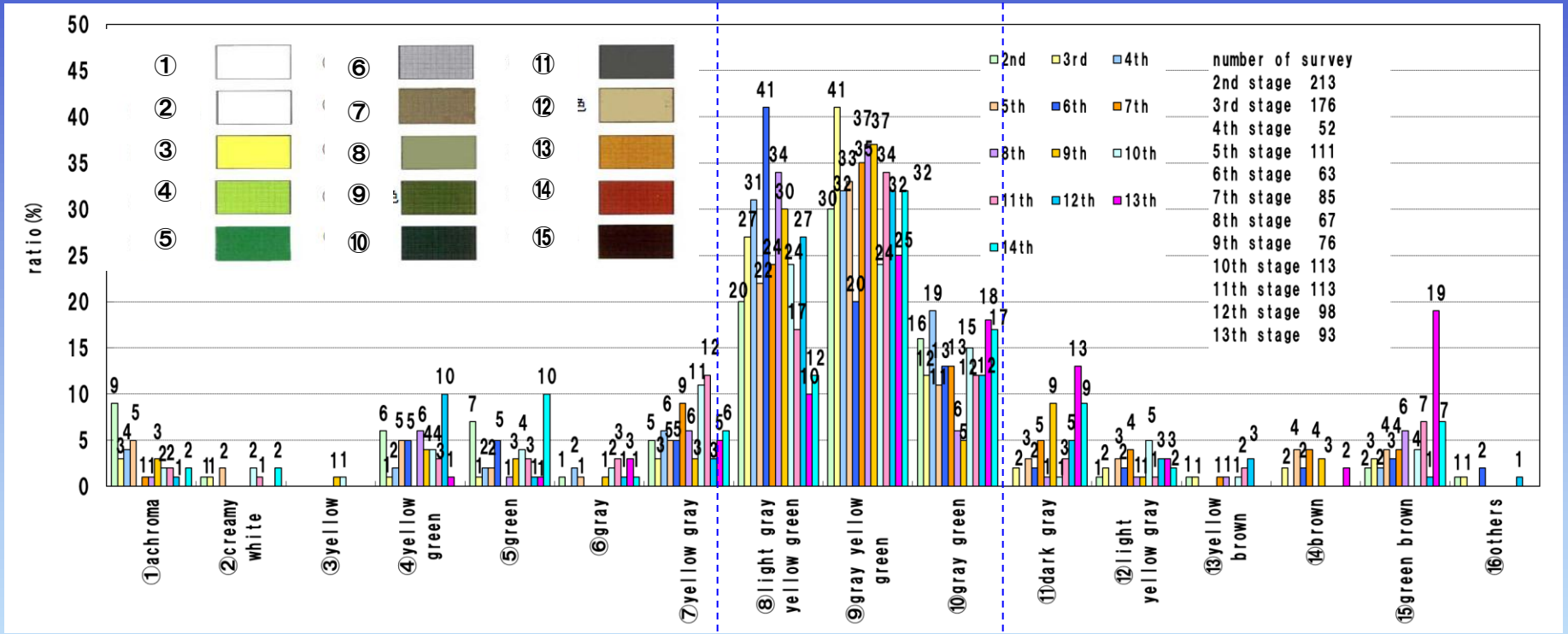
From the 2nd HR Chosatai meeting report

2nd to 6th :TRWKR on,
no rain on the day and previous day
7th to 14th :TRWKR off,
No rain on the day and previous day

Ratio of colors

between the Sanage-bashi bridge and the Minato-shin-bashi bridge

"Colors" was added to survey item from the 2nd stage.



Frequent colors were ⑧Light grey yellow green, ⑨Grey yellow green, and ⑩Grey green.

2nd to 6th :TRWKR on,
no rain on the day and previous day
7th to 14th :TRWKR off,
No rain on the day and previous day

Colors when “Dirty” or “Slightly dirty”

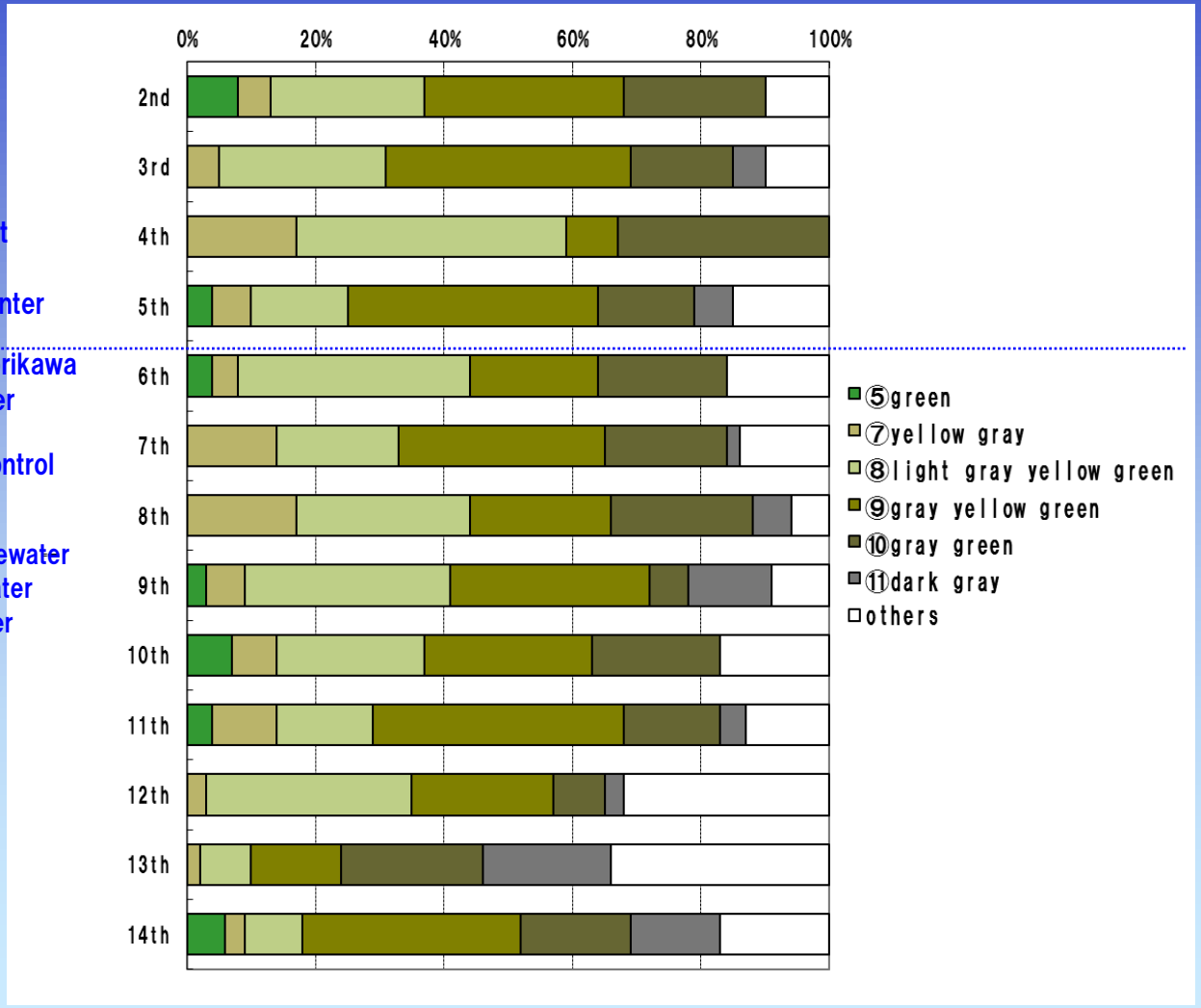
Ratio of main colors, between the Sanage-bashi bridge and the Minato-shin-bashi bridge

With TRWKR

Introduction of advanced treatment on the Majo waste water treatment center

In service of Horikawa Ugan Rain-water Reservoir For Pollution Control

Utilization of reclaimed wastewater of Moriyama water treatment center



■ What Colors were seen when the impression about clearness was “slightly dirty” or “dirty”? Colors seen frequently were ⑤ Green, ⑦Yellow gray, ⑧Light gray yellow green, ⑨gray yellow green, ⑩Gray green and ⑪Dark gray.

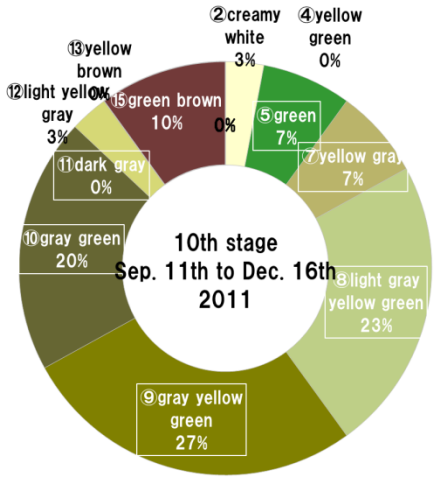
It smells of rotten egg in case of ⑧Light grey yellow green. And water get blue tide.

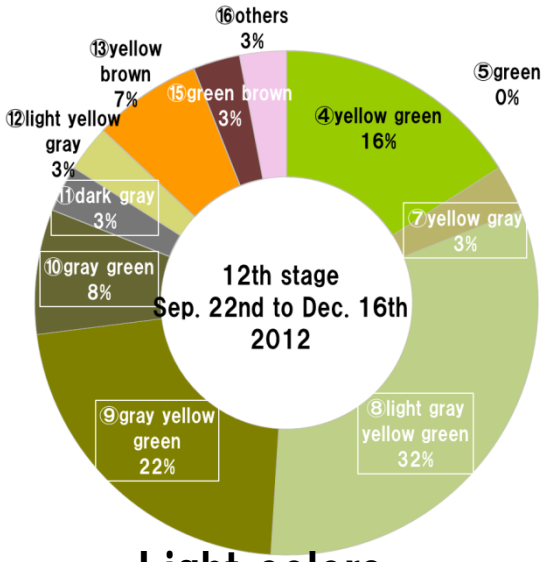
⑪Dark grey shows risen sludge. The color was seen mainly from spring to early summer. However, it accounted 14% in 14th stage, carried out from autumn to early winter.

Colors when “Dirty” or “Slightly dirty”

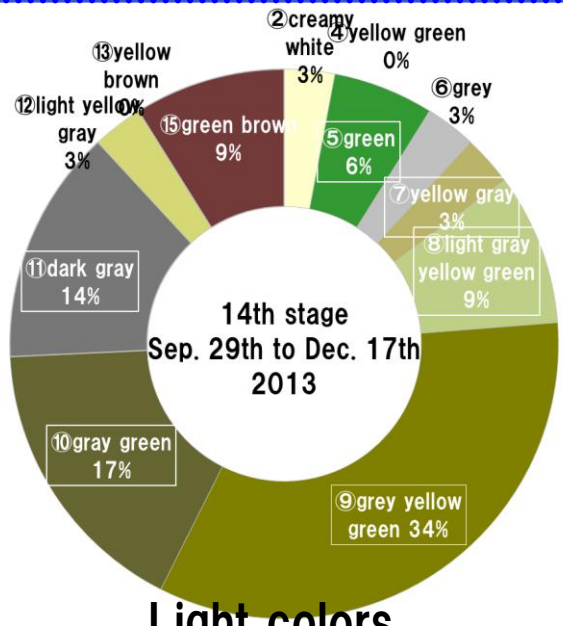
No rain on the day and previous day

Ratio of colors between the Sanage-bashi bridge and the Minato-shin-bashi bridge
Comparison among the 10th, 12th, and 14th





Light colors increased.



Light colors decreased. Dark colors increased.

⑨Gray yellow green, ⑪Dark gray increased.

From comparison between the 10th and 12th, dark colors such as ⑤Green, ⑩Gray green, ⑮Green brown decreased, and light colors such as ④Yellow green, ⑧Light gray yellow green, ⑬Yellow brown increased. On the 12th stage, high temperature continued to middle of October. Thus, it is considered that, bottom water of HR continued to be lack of oxygen, and tend to be milky (blue tide: increase of sulfur colloid). (12th HR Chosatai meeting report)

On the 14th stage, light colors decreased and dark colors increased. It is considered that, it got high transparency of water and made observers show basin sludge colors (dark gray), then observers reported dark colors.

The reason why dark colors increased on the 14th stage

Observation of water colors

10th stage

Nagoya port

Upper

Fresh water

Salt water

Rise of bottom sludge

Observation of water colors

It is considered that, there were double layer of water; high transparency surface and milky bottom water. Observers on bridge felt light white colors from bottom layer through surface layer.

12th stage

Fresh water

Salt water

Milky

Rise of bottom sludge

On the 12th stage, high temperature continued to the middle of October. And bottom water (salt water) of HR had been lack of oxygen , then tended to be milky (blue tide: increase of sulfate colloid) .

Observation of water colors

It is considered that, the transparency of water got high and observers saw bottom sludge (dark gray) then felt dark colors.

14th stage

Fresh water

Decrease of rise of bottom sludge

Salt water

Low milky

In the 14th stage, HR might to be low milky. Because there were short heavy rain such as on September 4th. And it flushed bottom sludge out. Then rise of sludge due to tide decreased, and bottom of HR didn't get lack of oxygen. It caused decrease of blue tide. Also, there were few reports of bubbles from bottom, that shows bottom was oxygen-rich.

透明度の測定 [セッキー板（直径 30cm 白色円盤）による]

堀川・川上から川下への透明度の変化　　2013/11/27

25期堀川と生活を考える会　近藤　佑輔

No	場所	距離 Km	年月日	時間	透明度 A m	水深 B m	干潮時刻 名古屋港	満潮時刻 名古屋港	月齢
1	桜橋	0	2013/10/14	9:35	1.16	2.16	7:57	15:10	9.1
2	錦橋	0.3	2013/10/14	9:55	1.43	2.63	7:57	15:10	9.1
3	天王崎橋	0.73	2013/10/14	10:20	1.76	3.19	7:57	15:10	9.1
4	新洲崎橋	1.15	2013/10/14	10:40	1.80	3.06	7:57	15:10	9.1
5	松重橋	2.0	2013/10/14	11:05	1.93	3.74	7:57	15:10	9.1
6	瓶屋橋	4.1	2013/10/14	11:55	1.94	4.70	7:57	15:10	9.1
7	御陵橋	4.8	2013/10/14	12:28	2.40	5.10	7:57	15:10	9.1
8	桜橋	0	2013/11/23	9:40	2.16	3.73	14:46	9.12	18.6
9	錦橋	0.3	2013/11/23	9:55	1.90	3.10	14.46	9.12	18.6
10	天王崎橋	0.73	2013/11/23	10:10	2.40	3.90	14.46	9:12	18.6
11	新洲崎橋	1.15	2013/11/23	10:25	2.50	3.76	14.46	9.12	18.6
12	松重橋	2.0	2013/11/23	10:40	3.00	3.90	14.46	9.12	18.6
13	瓶屋橋	4.1	2013/11/23	11:05	3.43	4.90	14.46	9.12	18.6
14	御陵橋	4.8	2013/11/23	11:25	4.27	5.14	14.46	9.12	18.6

備考 1、桜橋から川下への距離　地図より概算した。
　　2、天候　晴

考察
1．川上から川下へと透明度はよくなる。
2．満潮に近い 11 月 23 日のほうが 10 月 14 日より透明度が良い。
3．月齢や天候の影響があると考えられる。

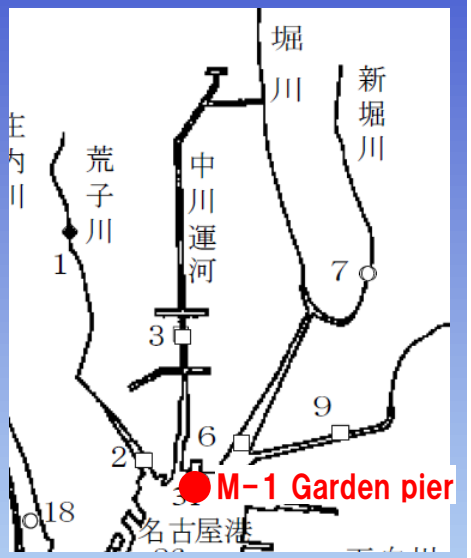
The transparency exceeded 1m between the Goryo-bashi Bridge and Sakura-bashi Bridge. Also, in November, it exceeded 2m on almost all points. Especially it exceeded 4m on Goryo-bashi Bridge.

Transparency measured by hand-made instrument
October 14th and November 23rd
Measuring points: 7 points between Sakura-bashi Bridge and Goryo-bashi Bridge

(Reference) Condition of the Nagoya port water

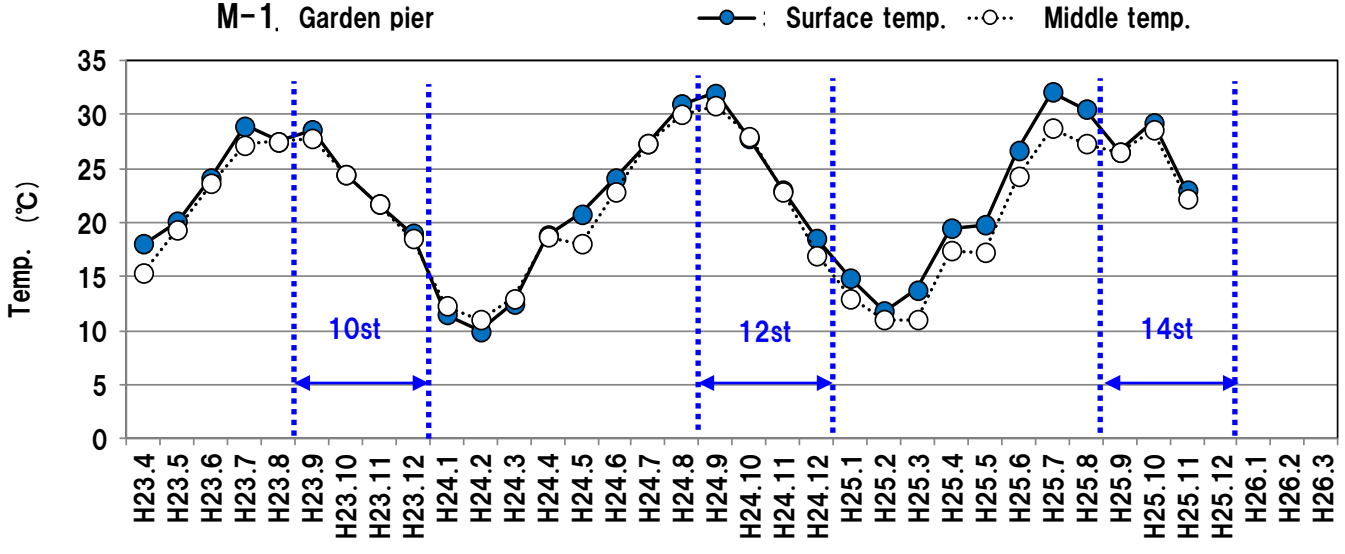
Temperature, transparency

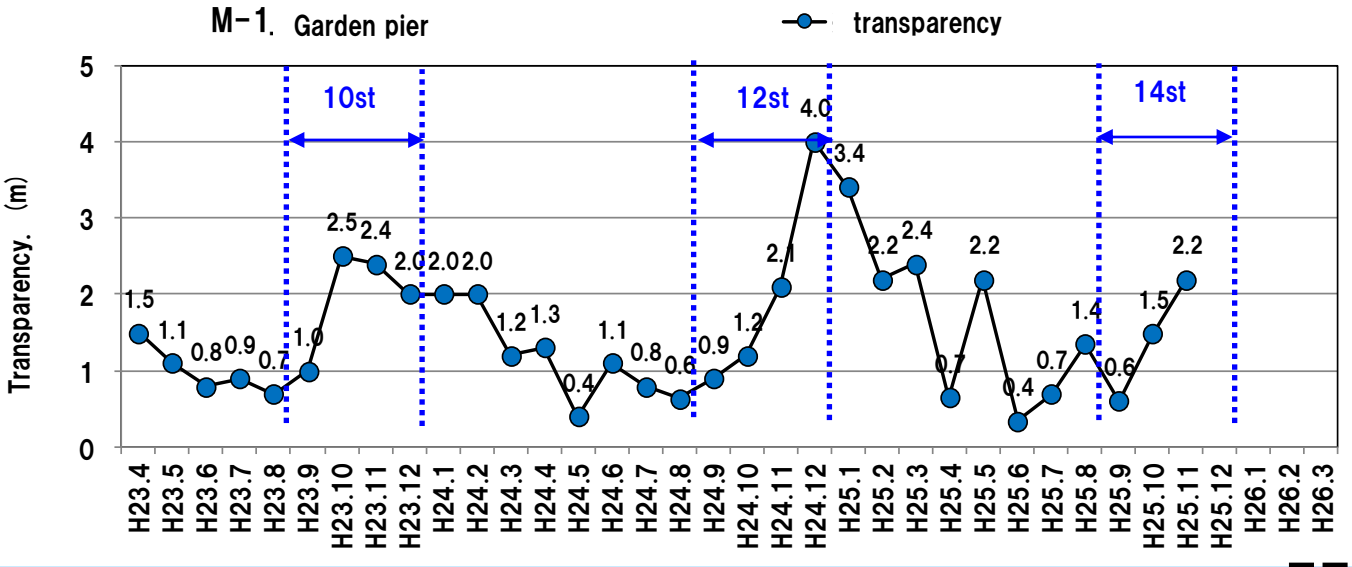
Water quality of Nagoya port (M-1 garden pier) From 2011



The transparency of Nagoya port (14th stage) was 1.5m in October and 2.2m in November.

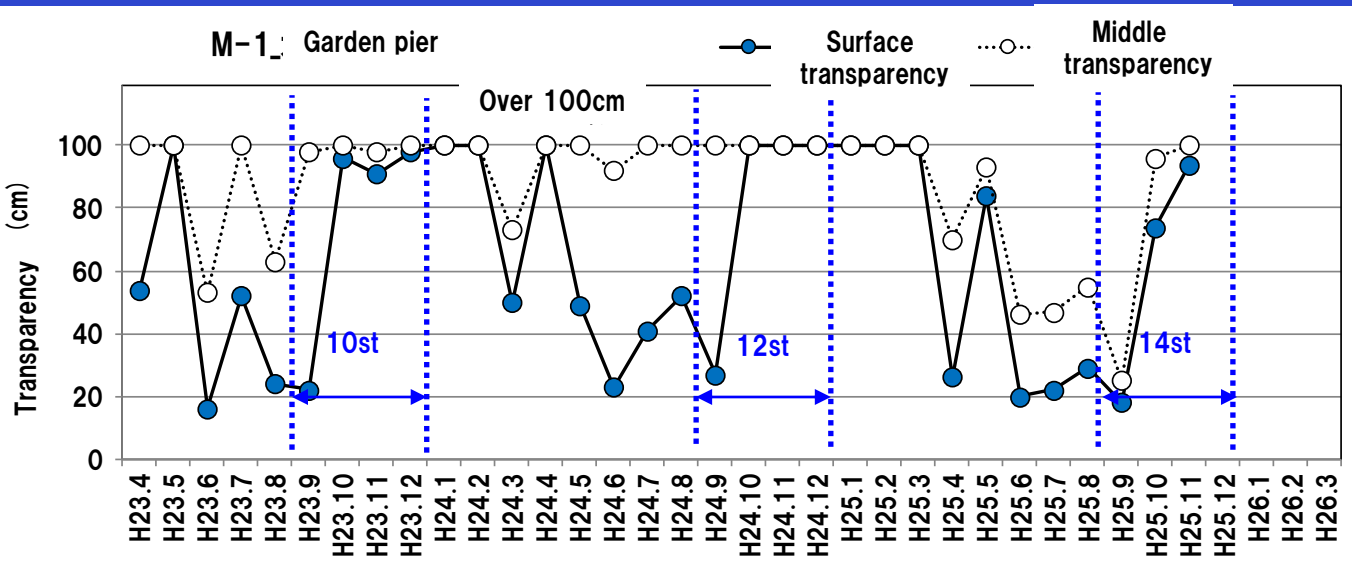
Quotation from Nagoya City HP
http://www.city.nagoya.jp/jigyou/category/38-3-6-5-63-0-0-0-0-0.html

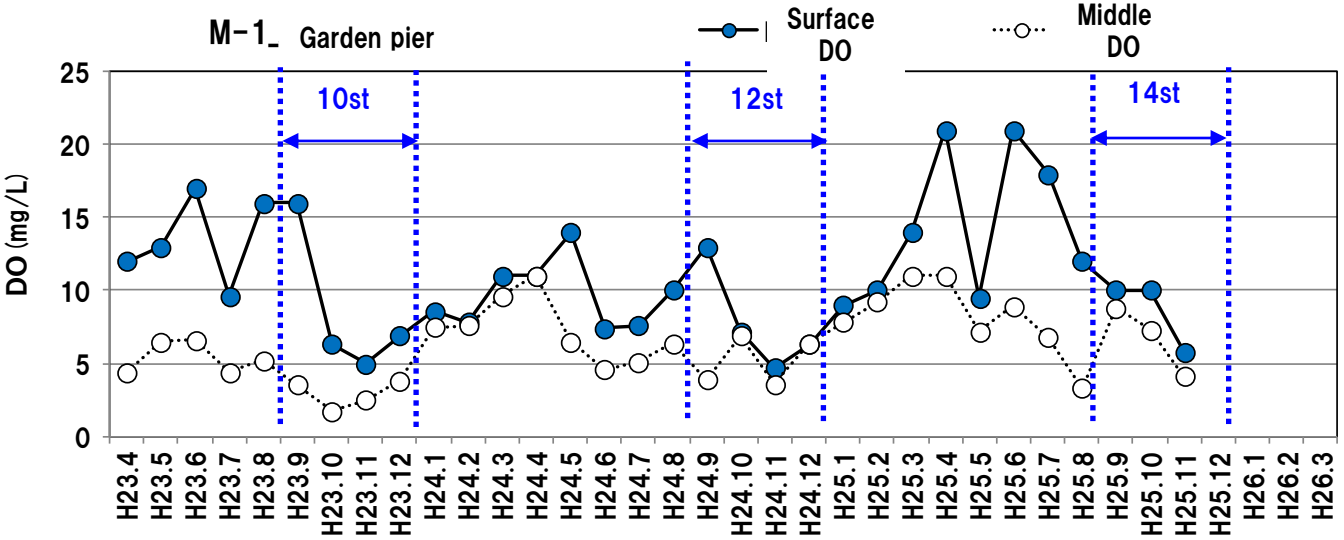




(Reference) Condition of the Nagoya port water

Transparency, DO(dissolved oxygen)





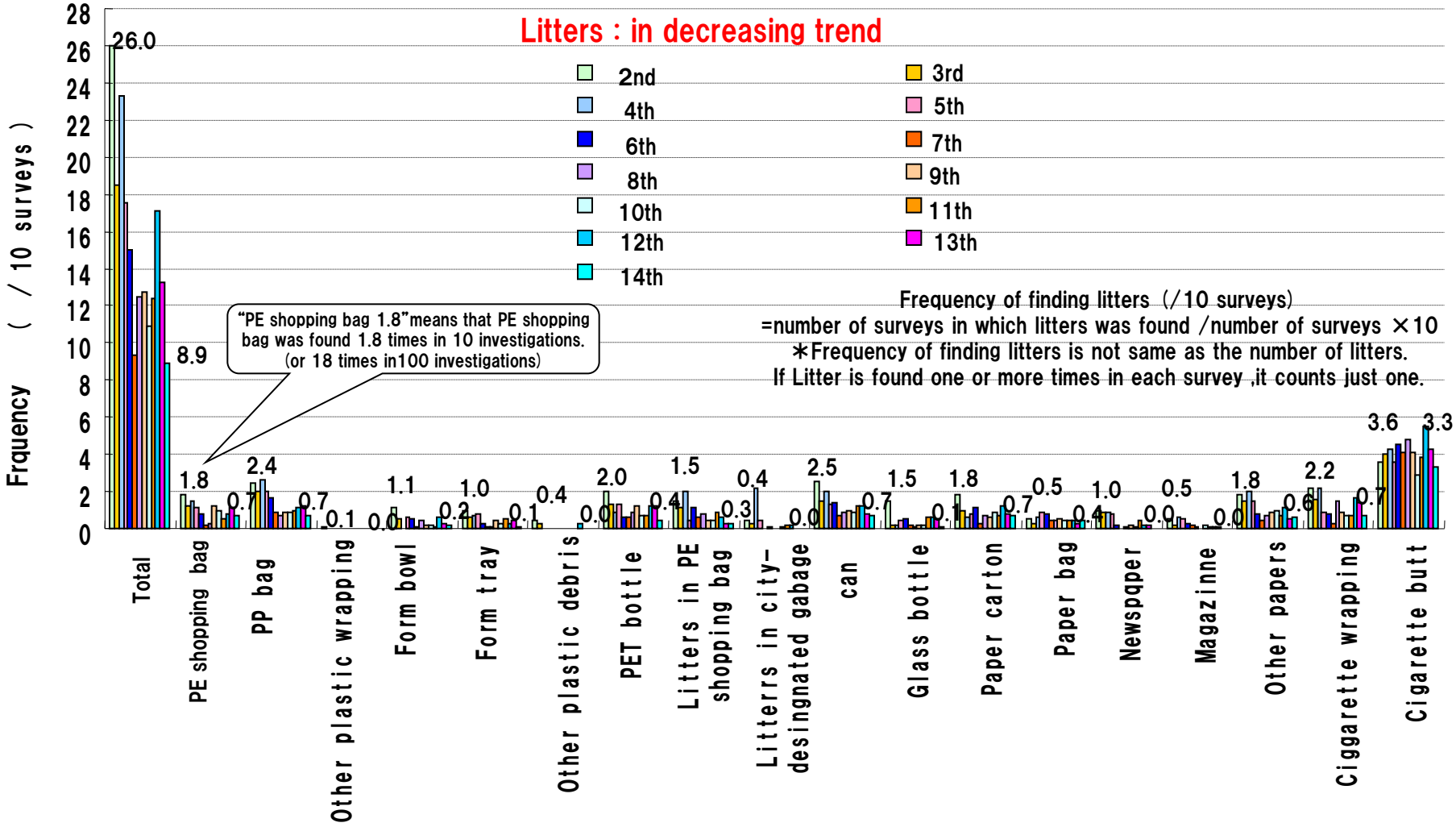
Quotation from Nagoya City HP
http://www.city.nagoya.jp/jigyou/category/38-3-6-5-63-0-0-0-0-0.html

7. Litters

Frequency of finding Litters
(From 2nd～14th stage, all section)

From 2nd to 6th stage : With TRWKR
No rain on the day and the previous day
From 7th to 14th stage : No TRWKR
No rain on the day and the previous day

■Litters component：Plastic wastes (PE、PP、form bowl、foam tray,PET ,etc.) ,can,glass,cigarette (wrapping,butt)



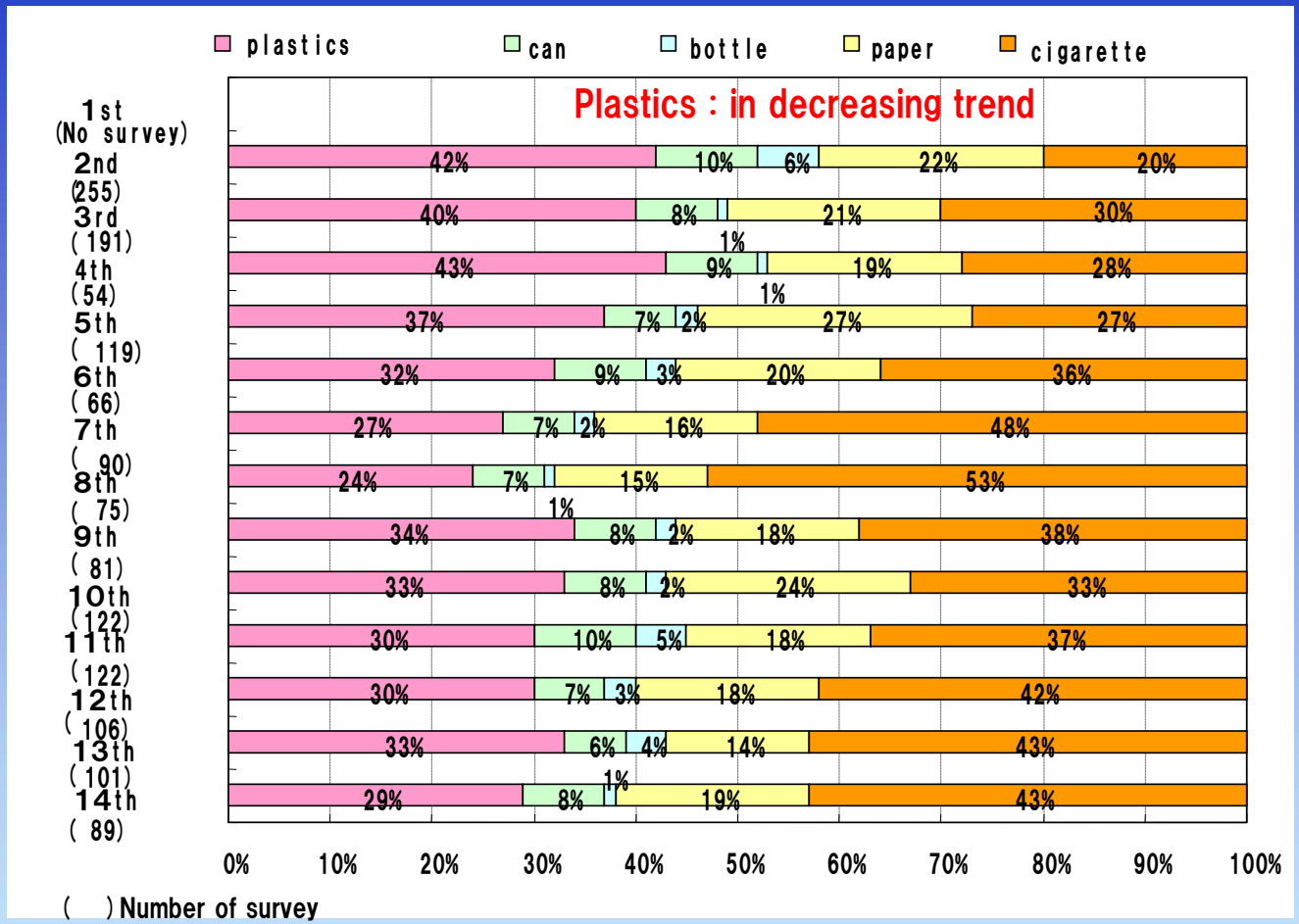
■What trend was frequency of litters?
Frequency of litters was in decreasing trend . Change of social environment, such as more active cleaning, charging of shopping bag fee, may influence this trend.
The most frequent littered item was cigarette butt.

Litters on Riverside Ways
(From 2nd～14th stage, all section)

From 2nd to 6th stage : With TRWKR
No rain on the day and the previous day
From 7th to 14th stage : No TRWKR
No rain on the day and the previous day

■ Litters component:
Plastic wastes (PE, PP, form bowl, foam tray, PET, etc.), can, glass, cigarette (wrapping, butt)

With TRWKR



注)Component ratio (%) =the number of sighting each kind of litter／the number of sighting all kind of litter ×100
Litter does not include leaves, branches and grass.
＊The number of sighting is not the number of litters.
We count one, even if at least one litter is sighted in the survey.

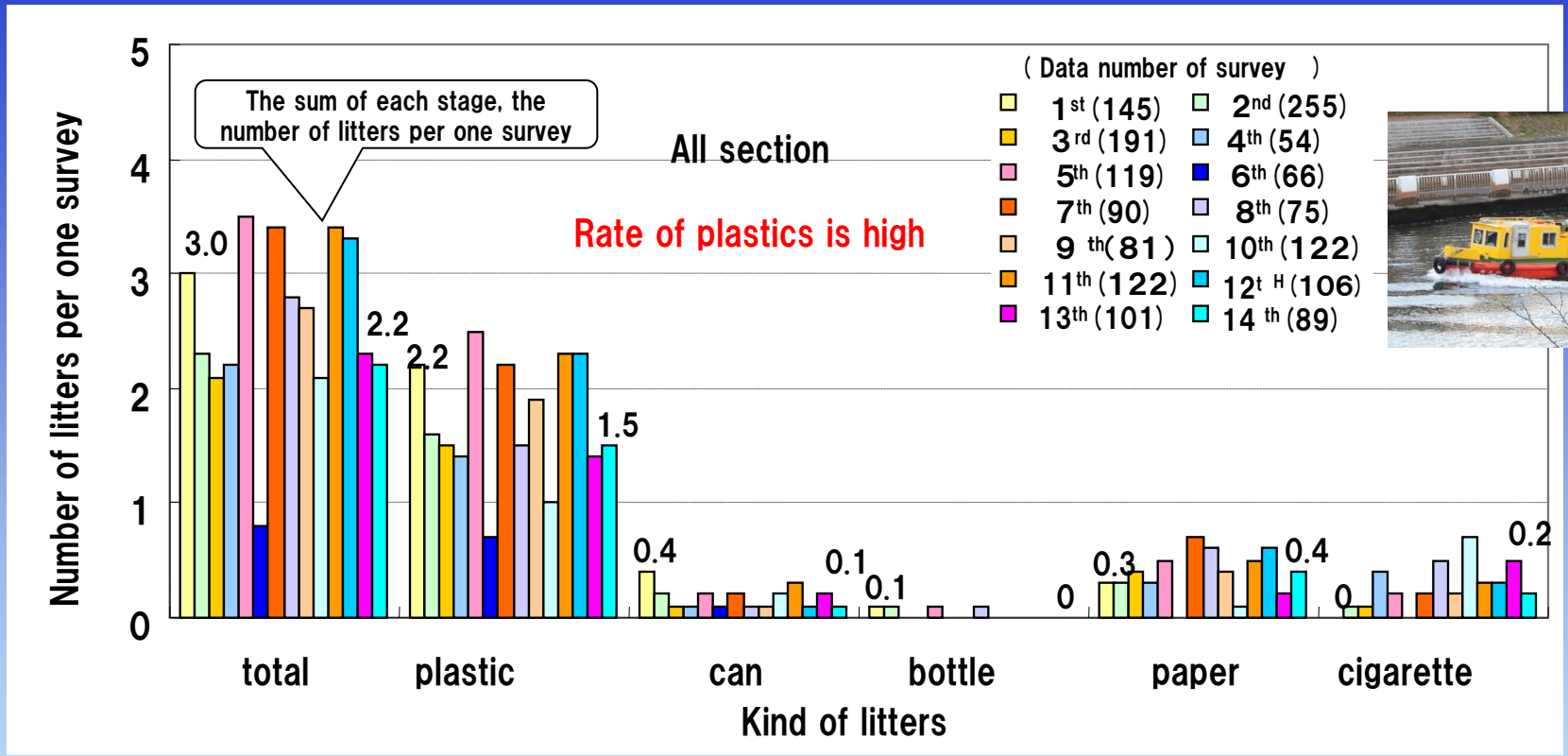
■What kind of litters on the riverside ways was sighted requently?
The rate of plastics and cigarette are high.
The rate of plastics is decreasing.

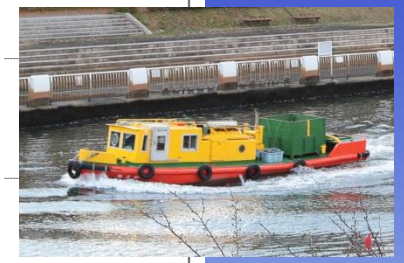
Change in Floating Litters

From 2nd to 6th stage : With TRWKR
No rain on the day and the previous day

From 7th to 14th stage : No TRWKR
No rain on the day and the previous day

■ Litters component: Plastic wastes (PE, PP, form bowl, foam tray, PET, etc), can, glass, cigarette (wrapping, butt)



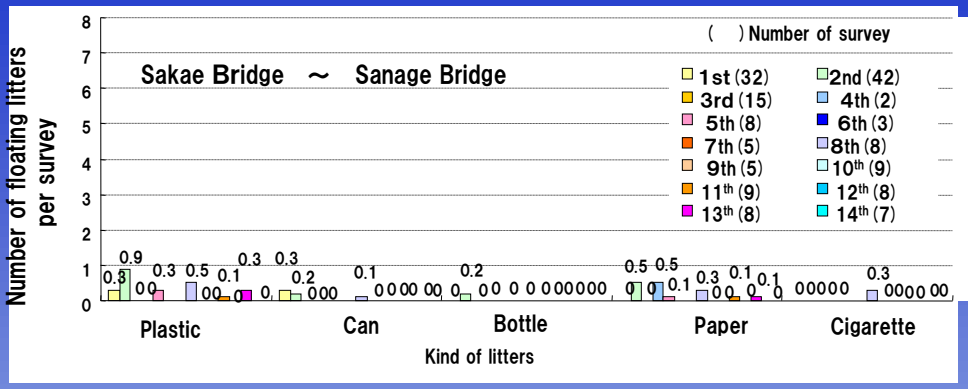


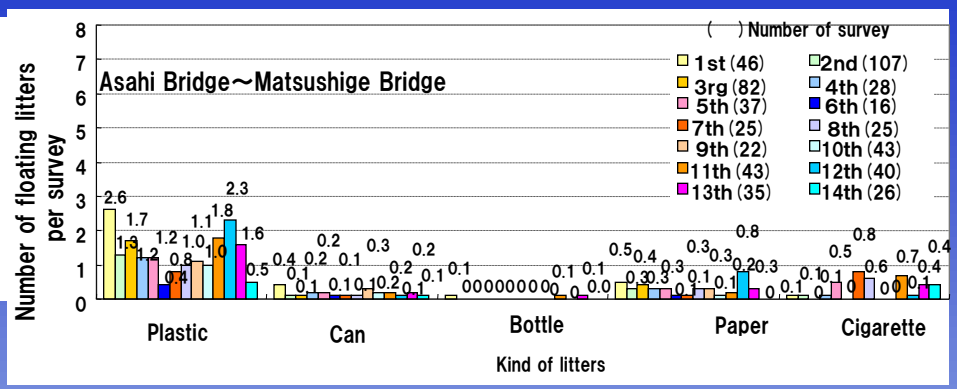
Note: the number of litters per one survey = the number of each litters found in all surveys/the number of surveys
＊the number of litters is the number of litters found through all surveys
"If some kind of litters was found "countless (=＊＊＊)"in some survey, it counts "10", the maximum number in one survey substituted for the number of "countless"

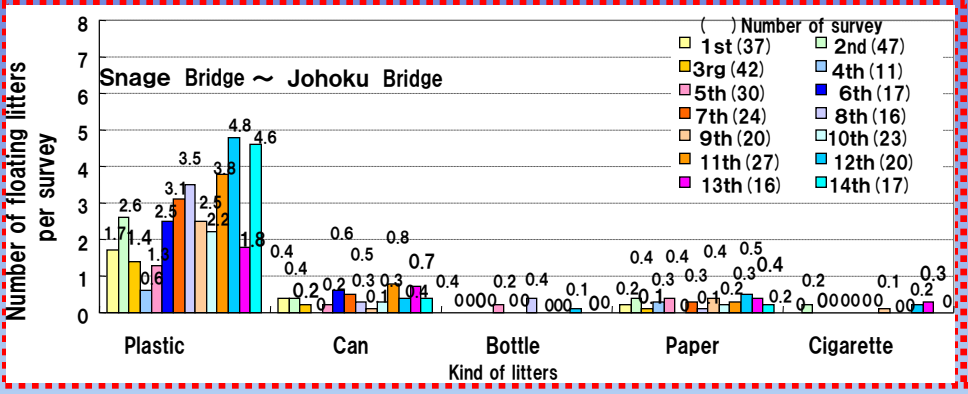
■What trend the floating litters goes?
→The litters on the riverside ways are decreasing. But the floating litters are not decreasing. Cleanup Vessel run regularly, but the floating litters might come and go with the high and low in Horikawa River for many hours. The rate of plastics is high.

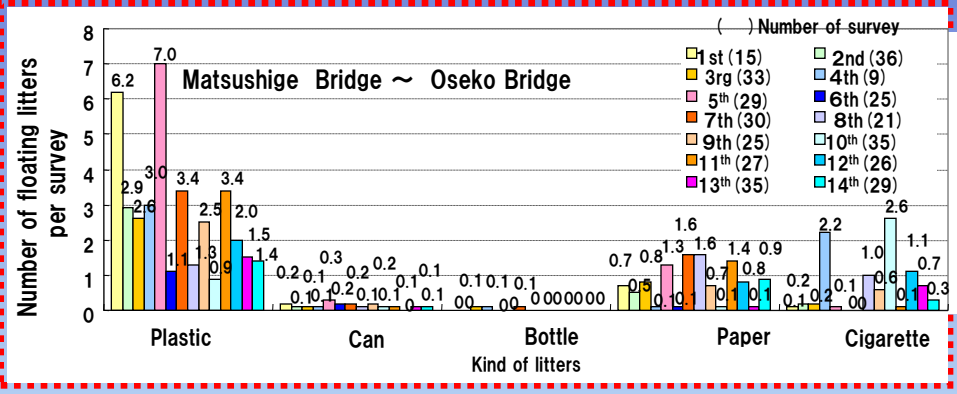
Change of the number of Floating Litters

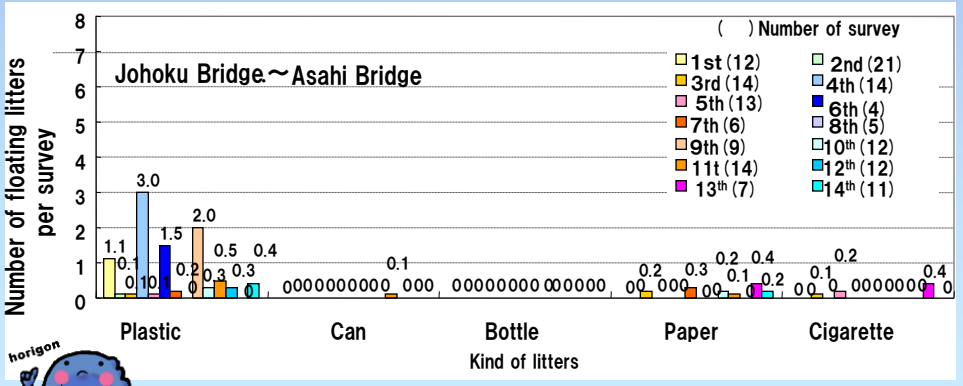
From 2nd to 6th stage : With TRWKR
No rain on the day and the previous day
From 7th to 14th stage : No TRWKR
No rain on the day and the previous day

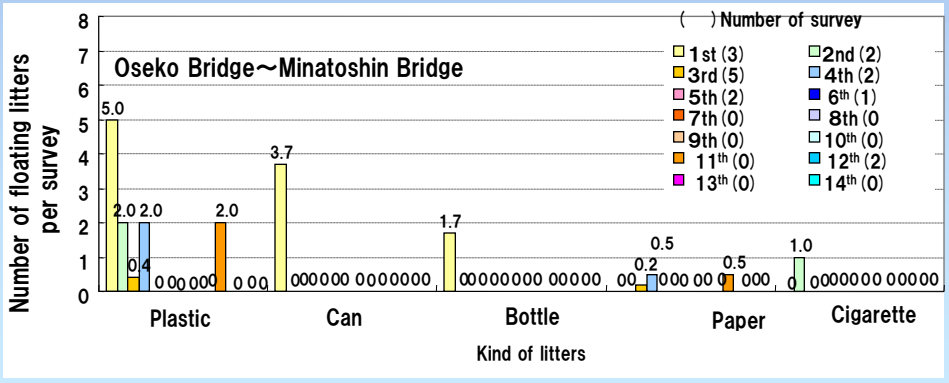








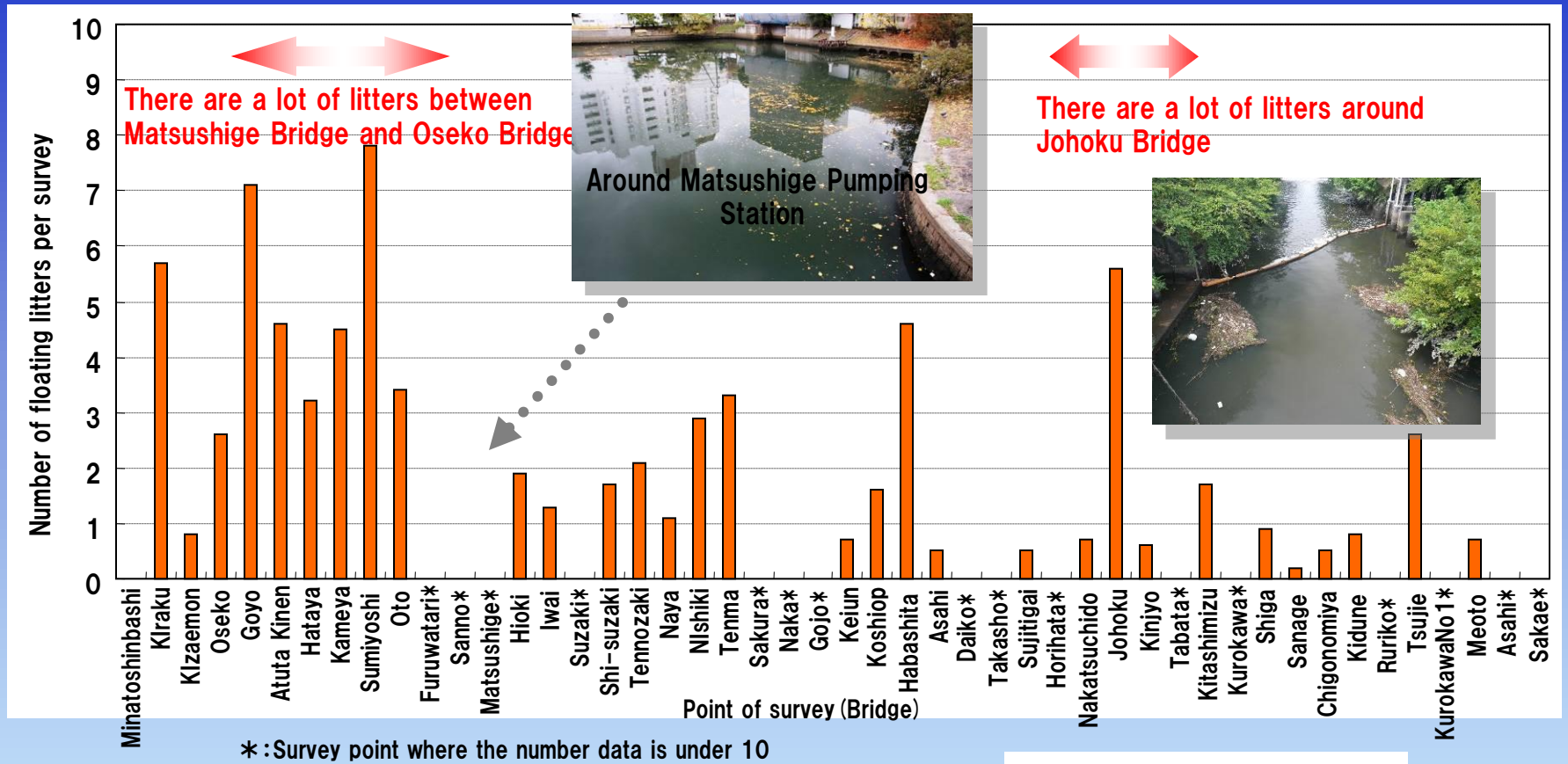




■ In which section did a lot of litters float？
→ In “Sanage Bridge ～Johoku Bridge” section and “Matsushige Bridge ～Oseko Bridge” section.

Change in Floating Litters along the Horikawa River

The 1st–14thstage: including term out of survey stage and after the stop TRWKR ,No rain



＊:Survey point where the number data is under 10

Note: the number of litters per one survey
= the number of each litters found in all surveys / the number of surveys

＊the number of litters is the number of litters found through all surveys
"If some kind of garbage was found "countless (=＊＊＊)"in some survey,
it counts "10", the maximum number in one survey substituted for the number of "countless"

Photo: secretariat
July. 2013

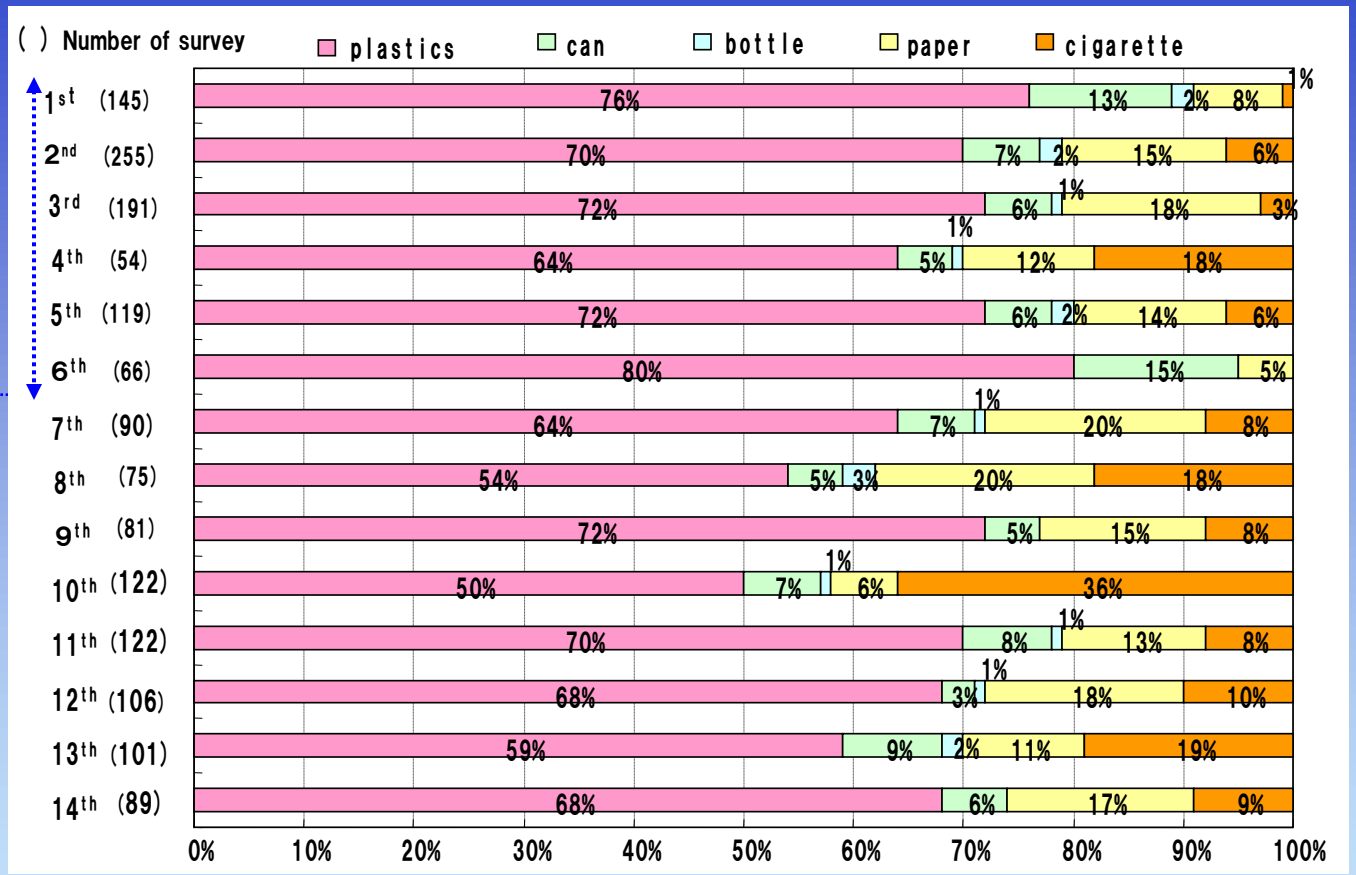
Kameya Bridge～Sumiyoshi Bridge

Kind of floating Litters (component ratio)

From 2nd to 6th stage : With TRWKR
No rain on the day and the previous day
From 7th to 14th stage : No TRWKR
No rain on the day and the previous day

■ Litters component：Plastic wastes (PE, PP, form bowl, foam tray, PET, etc.), can, glass, Cigarette (wrapping, butt)

With TRWKR



注)Rate of litters (%) ＝the number of each kind of litters ／the number of all kind litters×100
the number does not include leaves branches and grass
＊the number of litters is the number of litters found through all surveys
"if some kind of litters were found "countless (=＊＊＊)"in some survey, it counts "10", the maximum number in one survey substituted for the number of "countless"

■What kind of floating litters were found frequently?
→The rate of plastics is high, 50～80%

8. Living Things

We observed creatures around Kurokawa No.2 Bridge placed upstream of Horikawa. Six native fish; carp, gibel, hemibarbus barbus, pale chub, goby minnow and catfish, and four alien fish; northern snakehead, black bass, bluegill and arowana were confirmed. And we saw birds feed on these fish; kingfisher and little egret.

Near Kurokawa No. 1 Bridge
September 26 (Thu), 2013
Report: Kawasemi survey group

Nishiki Bridge November 1, 2013
Report: Kawasemi survey group

Report: Kan- Nagoya-ko Sea-bass
Challenge group December 8, 2013
Horikawa Shirotori Bridge
perch's run-up

Kingfishers fly in the upstream of Horikawa like daily.
Many people rally to photograph kingfishers, so you can make friends each other naturally.

Full of Nature and Humanity in Horikawa upstream area.

Report: Goyousui-ato-gaien-aigokai Survey Group

Hordes of mullet run-up

中日新聞　2014年(平成26年)1月19日(日曜日)

ボラ大群 堀川遡上

北区

市民調査隊「水質改善？うれしい現象」

北区の堀川上流で十八日、数万匹に上るボラの群れが遡上しているのを、堀川の清掃や水質調査に取り組む市民団体「堀川千人調査隊」の会員が見つけた。堀川でこれほどの群れが確認されたのは二〇〇九年以来。過去に遡上があったのは水質がきれいな年だけだといい、調査隊のメンバーは「やっと来てくれた」と喜んでいる。（鈴木龍司）

発見したのは、調査隊実行委員長の梅本隆弘さん(七二)＝北区柳原二。午前九時ごろ、犬の散歩中に城北橋からいつものように川の色を確認すると、五〇㍍ほどの川幅の三分の二が真っ黒になっていた。ゆっくりと泳ぐボラだった。群れの長さは二百㍍に及んでいた。名古屋港から潮の流れに乗り、遡上してきたとみられる。

調査隊によると、堀川上流では〇八、〇九年のこの時期にも大きな群れが見つかっていて、この時期に当たるだけに、服部さんは「今回になったボラが五十万匹近く死んだり、ボラを餌にするカワウのふん害が深刻化したりするなど行政を巻き込む問題になった。

調査隊は今回、同様の事態が起きないことを願う一方で、ボラの群れと水質の因果関係に注目している。

調査隊事務局長の服部宏さん(五七)＝同区杉村一＝は「ボラも汚い川は嫌い。仲間と『今年は川の透明度が高いね』と話していたところだった」と話す。堀川では水質改善のため、市が〇七～一〇年にかけて、きれいな木曽川の水を放流していた。過去二回の大量発生はこの時期に当たるだけに、服部さんは「今回も水が再びきれいになったことが理由かもしれない」と期待する。

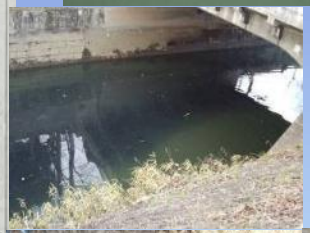
調査隊によると、ボラは大量死などがない限り、二月ごろまで北区付近にとどまるという。梅本さんは「最近はボラが来なかったので、とても興奮している。堀川に春を告げるうれしい現象です」と話している。

堀川の川面を埋めるボラの大群＝いずれも北区で

ボラの大群が現れた堀川

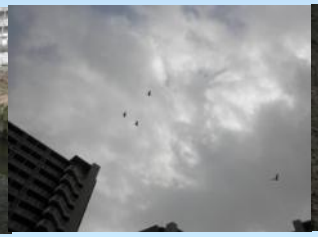
Near Nishiki Bridge - Naya Bridge
Report: Kawasemi chosatai, November 1 (Fri) - 2013

Around Shirotori area Horikawa, and around Atsuta Bridge
Shin-Horikawa River
Report: Kojo-Horikawa-to-seikatsu-wo-kangaeru kai,
November 2 (Sat), 2013



January 18 (Sat), 2014
Johoku Bridge and Kinjo Bridge
Shot in downstream of Kinjo Bridge around 3:30 pm
Report : HSC, Goyousui-ato-gaien-aigokai Survey Group and Secretariat

2 pm January 18 (Sat), 2014
Johoku Bridge
Report: Goyousui-ato-gaien-aigokai Survey Group



Hordes of mullet run-up

Tabata Bridge and the Bridge Kitashimizu
8:00 am January 19 (Sun), 2014

Hordes distributed throughout Kitashimizu Bridge, Kinjo Bridge and Johoku Bridge

8:00 am at high tide January 22 (Wed), 2014
Run-up to Kurokawa Bridge over Kitashimizu Bridge

January 23, 2014 (Thu)
High tide, early morning
Hordes reach to the bottom of Shiga Bridge

January 23 (Thu), 2014
afternoon
Upstream area; water transfer from Shonai river was under suspension

Report and photography: Goyousui-ato-gaien-aigokai Survey Group, Secretariat

January 23 (Thu), 2014
Shiga Bridge - Kurokawa Bridge
Fish were treading water near the surface for oxygen deficiency
Dozens of fish died
* water transfer from Shonai river stopped

January 24, 2014 near Sanage Bridge
Water transfer from Shonai river resumes

Mullets regained vitality

Report and photography: Goyousui-ato-gaien-aigokai Survey Group and Secretariat

(Reference) Records of large amount of mullet's run-up in 2008, 2009 and 2014

堀川におけるボラ大量遡上の記録（平成20年、21年、平成26年）

平成20年

年月日	潮回り	錦橋	北清水橋～猿投橋
1月1日	小潮		
1月2日	長潮		
1月3日	若潮		
1月4日	若潮		
1月5日	中潮		
1月6日	中潮		
1月7日	中潮		
1月8日	大潮		
1月9日	大潮		
1月10日	大潮		
1月11日	大潮		
1月12日	中潮		
1月13日	中潮		
1月14日	中潮		
1月15日	小潮		
1月16日	小潮		
1月17日	小潮		
1月18日	若潮		
1月19日	中潮		
1月20日	中潮		
1月21日	中潮		
1月22日	大潮		
1月23日	大潮		
1月24日	大潮		
1月25日	大潮		
1月26日	中潮		
1月27日	中潮		
1月28日	中潮		
1月29日	小潮		
1月30日	小潮		
1月31日	小潮		
2月1日	長潮		
2月2日	若潮	○ボラ死骸	
2月3日	中潮		
2月4日	中潮		
2月5日	中潮		
2月6日	中潮		
2月7日	大潮		
2月8日	大潮		
2月9日	大潮		
2月10日	中潮		
2月11日	中潮		
2月12日	中潮		
2月13日	小潮		
2月14日	小潮		大量遡上
2月15日	小潮		
2月16日	長潮		
2月17日	若潮		
2月18日	中潮		
2月19日	中潮		
2月20日	中潮		
2月21日	大潮		
2月22日	大潮		
2月23日	大潮		○大量死
2月24日	大潮		
2月25日	中潮		
2月26日	中潮		
2月27日	中潮		
2月28日	小潮		
2月29日	小潮	○ボラ死骸	
3月1日	小潮		
3月2日	長潮		
3月3日	若潮		
3月4日	中潮		
3月5日	中潮		
3月6日	中潮		○大量死
3月7日	大潮		
3月8日	大潮		
3月9日	大潮		
3月10日	大潮		
3月11日	中潮		
3月12日	中潮		
3月13日	小潮		
3月14日	小潮		
3月15日	小潮		
3月16日	長潮		
3月17日	若潮		
3月18日	中潮		
3月19日	中潮		
3月20日	中潮		
3月21日	大潮		
3月22日	大潮		
3月23日	大潮		
3月24日	大潮		
3月25日	中潮		
3月26日	中潮		
3月27日	中潮		
3月28日	中潮		
3月29日	小潮		
3月30日	小潮		

平成21年

年月日	潮回り	錦橋	北清水橋～猿投橋
1月1日	中潮		
1月2日	中潮		
1月3日	小潮		
1月4日	小潮		
1月5日	小潮		
1月6日	長潮		
1月7日	若潮		
1月8日	中潮	大量遡上	
1月9日	中潮		
1月10日	中潮		
1月11日	大潮		
1月12日	大潮		
1月13日	大潮		
1月14日	中潮		
1月15日	中潮		
1月16日	中潮		
1月17日	小潮		
1月18日	小潮		
1月19日	小潮		
1月20日	長潮		
1月21日	若潮		
1月22日	中潮		
1月23日	中潮		
1月24日	中潮		
1月25日	中潮		
1月26日	大潮		
1月27日	大潮		
1月28日	大潮		
1月29日	大潮		大量遡上
1月30日	中潮		
1月31日	中潮		
2月1日	中潮		
2月2日	小潮		
2月3日	小潮		
2月4日	小潮		
2月5日	長潮		
2月6日	若潮		
2月7日	中潮		
2月8日	中潮		
2月9日	大潮		
2月10日	大潮		
2月11日	大潮		
2月12日	大潮		
2月13日	中潮		
2月14日	中潮		
2月15日	中潮		
2月16日	小潮		
2月17日	小潮		
2月18日	小潮		
2月19日	長潮		
2月20日	若潮		
2月21日	中潮		
2月22日	中潮		
2月23日	中潮		
2月24日	大潮		
2月25日	大潮		
2月26日	大潮		
2月27日	大潮		
2月28日	中潮		
3月1日	中潮		
3月2日	中潮		
3月3日	小潮		
3月4日	小潮		
3月5日	小潮		
3月6日	小潮		
3月7日	長潮		
3月8日	若潮		
3月9日	中潮		
3月10日	中潮		
3月11日	大潮		
3月12日	大潮		
3月13日	大潮		
3月14日	中潮		
3月15日	中潮		
3月16日	中潮		
3月17日	小潮		
3月18日	小潮		
3月19日	小潮		
3月20日	小潮		
3月21日	長潮		
3月22日	若潮		
3月23日	中潮		
3月24日	中潮		
3月25日	中潮		
3月26日	大潮		
3月27日	大潮		
3月28日	大潮		
3月29日	大潮		
3月30日	中潮		
3月31日	中潮		

平成26年

年月日	潮回り	錦橋	城北橋～北清水橋	北清水橋～猿投橋
1月1日	大潮			
1月2日	大潮			
1月3日	大潮			
1月4日	中潮			
1月5日	中潮			
1月6日	中潮			
1月7日	小潮			
1月8日	小潮			
1月9日	小潮			
1月10日	長潮			
1月11日	若潮			
1月12日	中潮			
1月13日	中潮			
1月14日	中潮			
1月15日	大潮			
1月16日	大潮			
1月17日	大潮			
1月18日	大潮		大量遡上	
1月19日	大潮			
1月20日	中潮			
1月21日	中潮			大量遡上
1月22日	中潮			
1月23日	小潮			
1月24日	小潮			
1月25日	小潮			
1月26日	長潮			
1月27日	若潮			
1月28日	中潮			
1月29日	中潮			
1月30日	大潮			
1月31日	大潮			
2月1日	大潮			
2月2日	大潮			
2月3日	中潮			
2月4日	中潮			
2月5日	中潮			
2月6日	小潮			
2月7日	小潮			
2月8日	小潮			
2月9日	長潮			
2月10日	若潮			
2月11日	中潮			
2月12日	中潮			
2月13日	中潮			
2月14日	大潮			
2月15日	大潮			
2月16日	大潮			
2月17日	大潮			
2月18日	大潮			
2月19日	中潮			
2月20日	中潮			
2月21日	中潮			
2月22日	小潮			
2月23日	小潮			
2月24日	長潮			
2月25日	若潮			
2月26日	中潮			
2月27日	中潮			
2月28日	中潮			
3月1日	大潮			
3月2日	大潮			
3月3日	大潮			
3月4日	中潮			
3月5日	中潮			
3月6日	中潮			
3月7日	小潮			
3月8日	小潮			
3月9日	小潮			
3月10日	小潮			
3月11日	長潮			
3月12日	若潮			
3月13日	中潮			
3月14日	中潮			
3月15日	中潮			
3月16日	大潮			
3月17日	大潮			
3月18日	大潮			
3月19日	大潮			
3月20日	中潮			
3月21日	中潮			
3月22日	中潮			
3月23日	小潮			
3月24日	小潮			
3月25日	小潮			
3月26日	長潮			
3月27日	若潮			
3月28日	中潮			
3月29日	中潮			
3月30日	大潮			
3月31日	大潮			

Chunichi Shimbun evening paper March 13 (Tue), 2008

堀川 ボラ大量死

水質改善で？思わぬ災難

名古屋市の名古屋城周辺の堀川で先月下旬から今月上旬にかけて、ボラが大量に死んでいるのが見つかり、周辺住民らを驚かせている。市が七日までに回収した総数は約四十五万匹。堀川でボラの遡上（そじょう）は例年見られるが、これだけの大量死は初めて。過去に例がない出来事はなぜ起きたのか―。

市公害対策課によると、ボラは景雲橋（西区）から猿投橋（北区）にかけて多く死んだ。体長二〇―三〇㌢の若いボラで、すべて焼却処分された。水質検査では有害物質は検出されず、溶存酸素の数値が低いことから、酸欠死の可能性が高い。

堀川の溶存酸素は通常一㍑当たり、四―五㍉だが、三月六日の水質調査では、黒川橋や城北橋付近の溶存酸素が〇・八㍉と極端に低かった。魚が生きるには二―三㍉以上必要という。堀川では、二〇〇五年にボラが二百匹死んだ記録がある。

同課は「ヘドロが巻き上がったことにより、溶存酸素が下がったのでは」と分析。堀川は一般の河川と異なり、潮の満ち引きの影響を受ける部分が広いため、満潮時には水が上流に逆流し、汚濁（ヘドロ）が海へ流れにくく、たまりやすい。ヘドロは通常川底に沈んでいるが、大雨などで流れが速くなると巻き上がったヘドロが酸化して、淡水部分の酸素を消費してしまうという。

一方、市は一九九四年から「河川環境整備事業」を実施。市堀川総合整備室によると、海のしゅんせつに使う機械式のバケットやポンプで、昨年までに計十三万七千立方㍍のヘドロを除去した。二〇〇七年度も九千万円の予算をかけている。昨年

ボラが大量死していた堀川＝3日、名古屋市西区で

ボラが大量死した範囲

ヘドロ除去進めるも 遡上増加で酸欠か

四月からは木曽川からの導水も実施。透視度が上がるなど水質は改善しており、同室は「ヘドロというより、ボラの数に対する酸素の絶対量の不足が大量死の原因だと思う」と困惑気味だ。

堀川を市民の目で調査する「堀川1000人調査隊」事務局の服部宏さん(63)は「導水がなかった昨年の春までに比べて、遡上が大幅に増えたことは堀川の水質改善が一つの要因といえそう。今月中旬になっても猿投橋周辺では元気に泳いでいる」と喜ぶ。その半面、大潮や導水がなかった日に堀川の水位が下がり酸欠になったのではと指摘し「喜ばしいやら、悲しいやら」と複雑な心境を話した。

堀川は全長一六・二㌔の運河。名古屋市の中心部を流れ、名古屋港に注ぐ。春になると、河口付近にすむボラが遡上する姿が見られる。

Mass mortality of fish might be caused by overlapping of interruption of water transfer from Shonai and Kiso River, and low water volume in spring tide in 2008.
Hordes of mullet consumed oxygen from lesser amount water, and they were killed by oxygen deficiency.
Water Transfer from Shonai and Kiso River wasn't interrupted in 2009, and mass mortality of mullet did not occur this year.

9. Direction of Wind

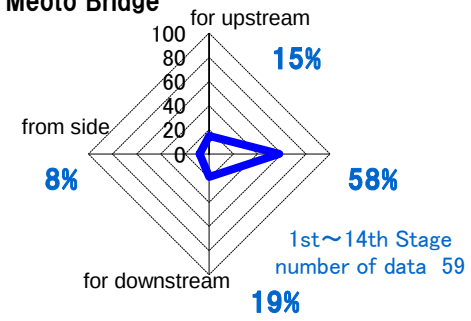
Wind for upstream and downstream is more frequent.

for upstream

for side

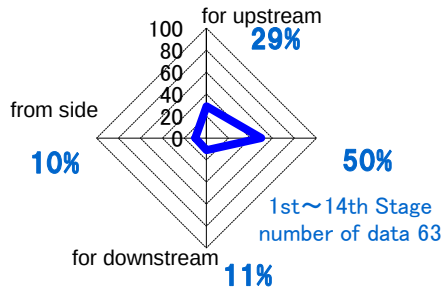
for downstream

Meoto Bridge



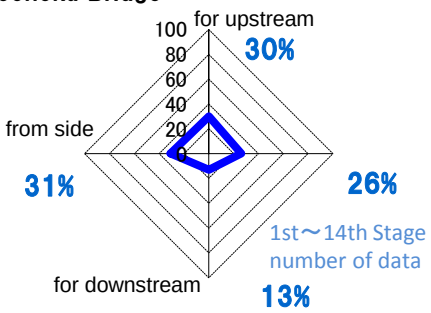
1st～14th Stage number of data 59

Kitashimizu Bridge



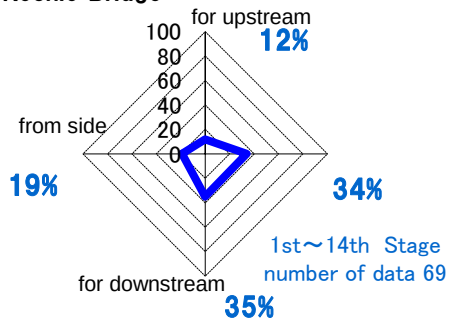
1st～14th Stage number of data 63

Johoku Bridge



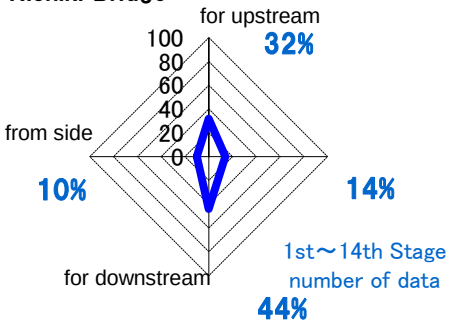
1st～14th Stage number of data

Koshio Bridge



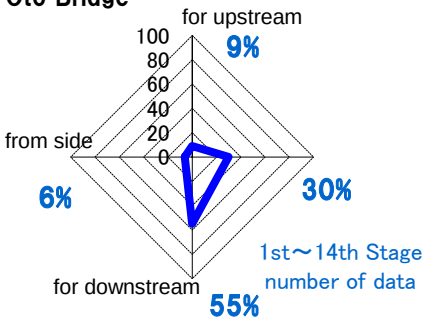
1st～14th Stage number of data 69

Nishiki Bridge

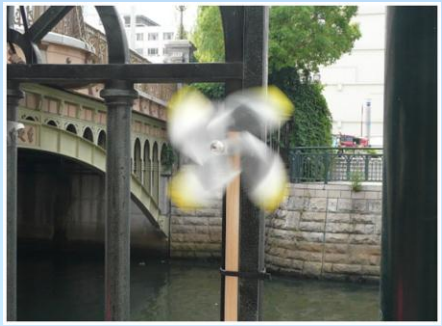


1st～14th Stage number of data

Oto Bridge



1st～14th Stage number of data



■ Direction of wind

We organized the data through all surveys (1st stage ~14th stage).

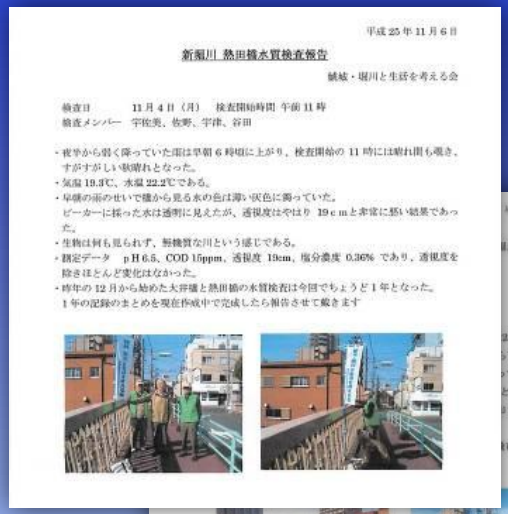
The winds for up stream and downstream are more frequent than the winds for side are.

The rate of winds for upstream and downstream is 80% at Nishiki Bridge.

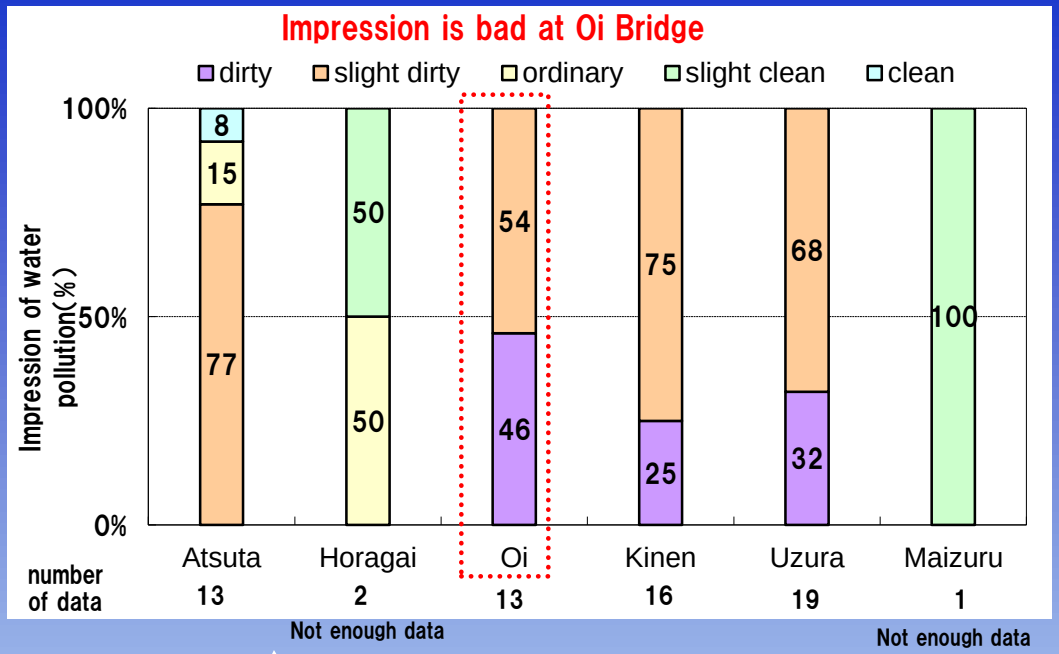
10. Result of survey on Shin-horikawa

Kojo Horikawa to Seikatsu wo Kangaeru kai

Team NTT Smile Nagoya



Impression of water pollution / Shin-Horikawa

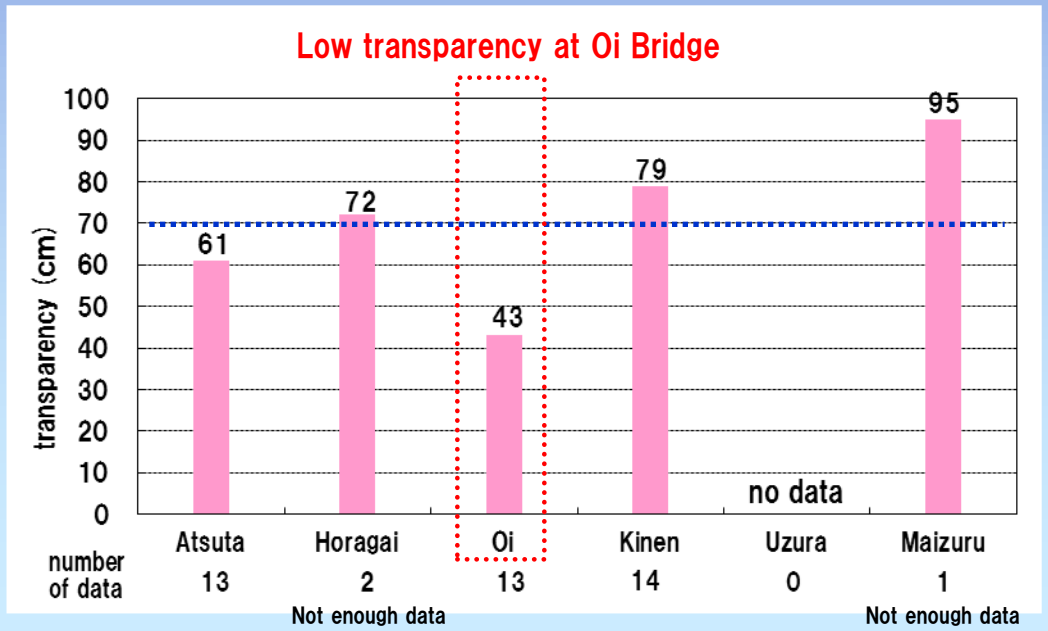


■ Impression of water pollution

→"dirty" and "slightly dirty" at Uzura, Kinen and Oi Bridge (upstream).
"slightly dirty" and "slightly clean" at Atsuta Bridge (downstream).

Impression of the water pollution is worse in upstream than in downstream.

Transparency / Shin-horikawa



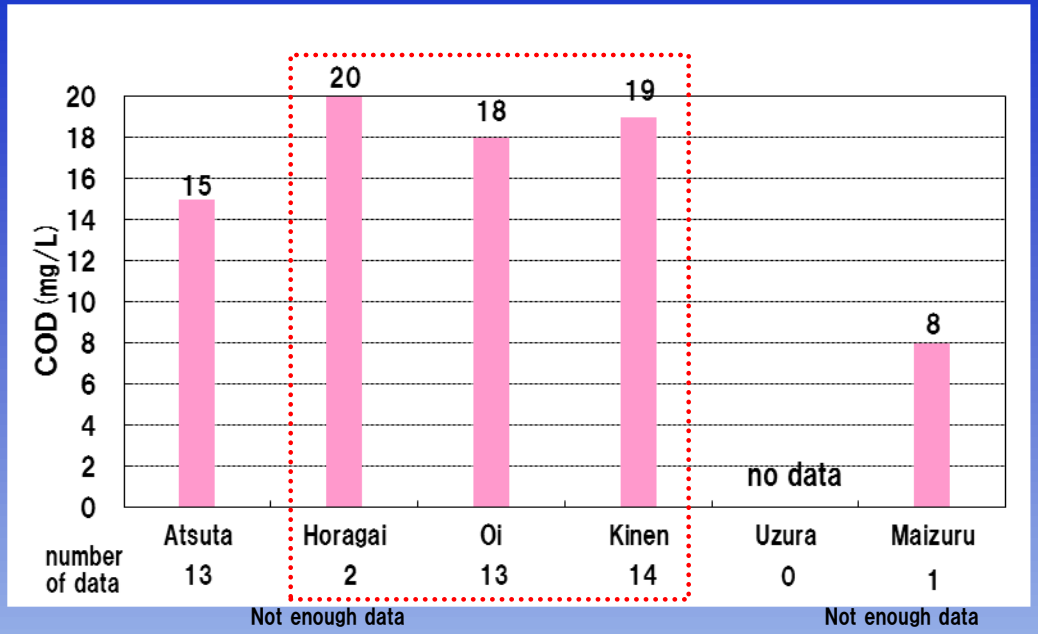
■ Transparency

→Over 70cm (acceptable range for citizens) around Kinen Bridge in upstream and Atsuta Bridge in downstream.

But only 43cm around Oi Bridge.

＊We defined "Clean "-"Ordinary" as acceptable range for citizens, transparency over 70cm in number.

COD / Shin-Horikawa

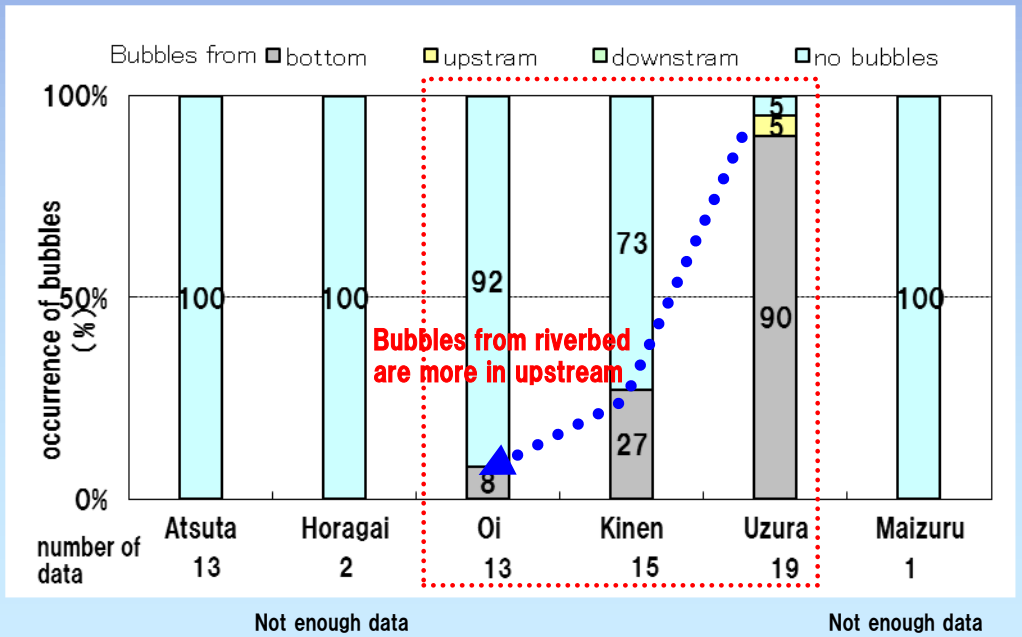


■ COD

→COD at Kinen, Oi and Horagai Bridge. in upstream is 18～20mg／L.

At Atsuta Bridge in downstream it is 15mg/L that is lower than other 3 points in upstream.

Bubbles / Shin-Horikawa



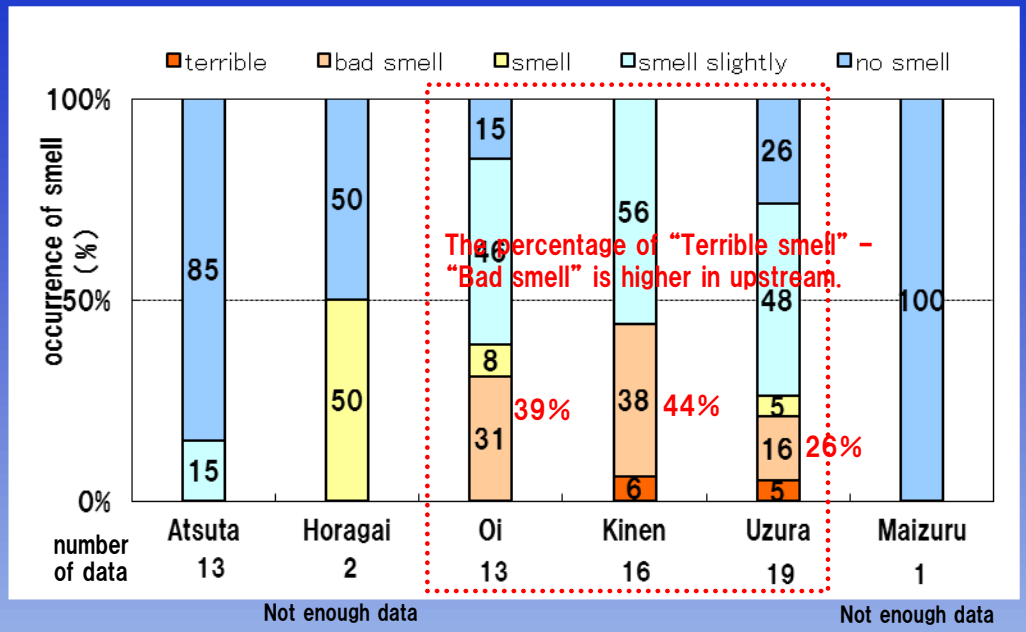
■ Bubbles

→Bubbles were seen at Uzura, Kinen and Oi Bridge.

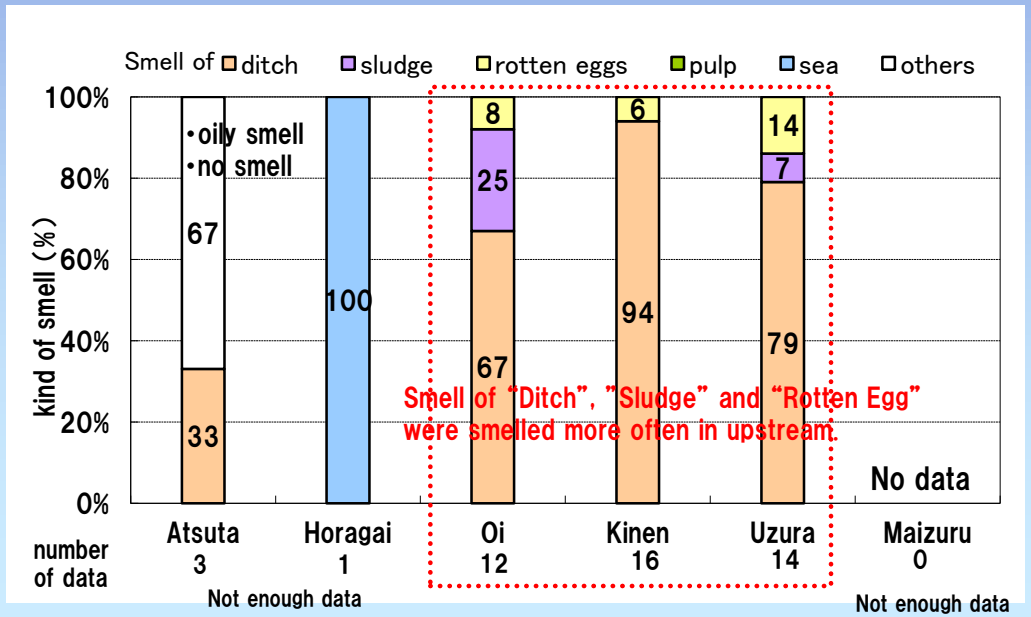
At Uzura Bridge in upstream, 90% of bubbles rose from the bottom of river.
Bubbles from the riverbed seems more often in upstream.

They were not seen at Atsuta bridge.

Smell / Shin-Horikawa



Kind of smell / Shin-Horikawa

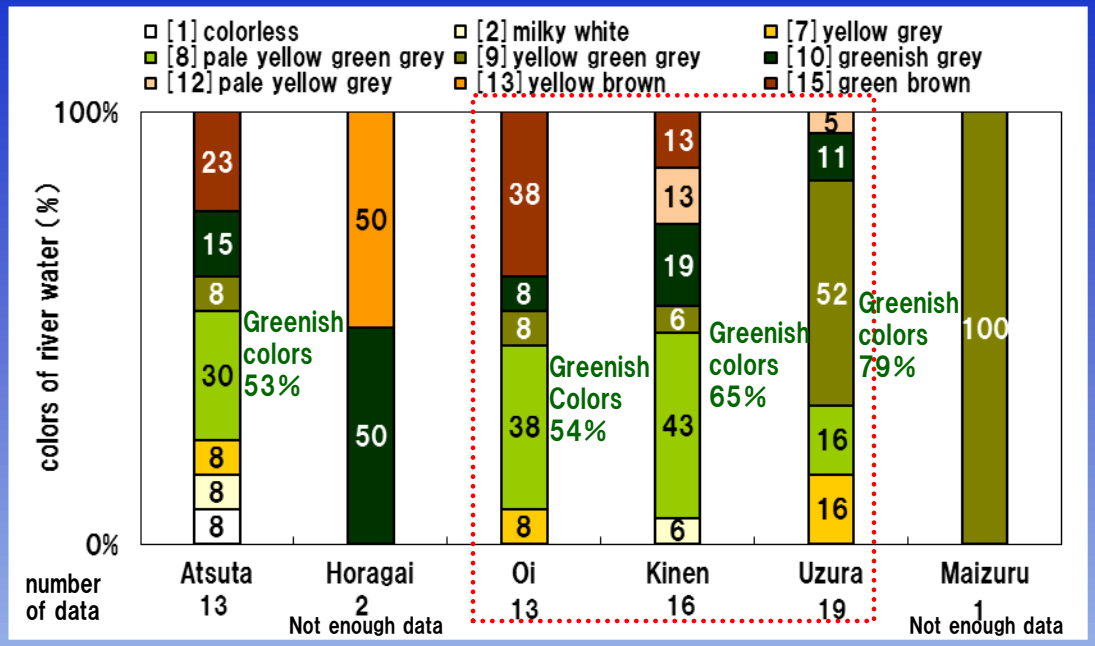


■ Smell

→The percentage of "terrible smell" - "bad smell" is between 26% and 44% at Uzura, Kinen and Oi Bridge in upstream. And smell of "Ditch", "Sludge" and "Rotten Egg" were smelled then.

"smell slightly" and "no smell" around Atsuta Bridge in downstream.

Colors of river water / Shin-Horikawa



■ Colors of river water

→Greenish 3 colors were often seen in Shin-horkawa.
Milky white was seen at Kinen Bridge, that is assumed to be caused by sulfide.
And green brown appeared Kinen, Oi and Atsuta Bridge. It is assumed to be caused by the phytoplankton that sometimes accounts red tide.

At Kinen Bridge

Report & Photo : Team NTT Smile Nagoya

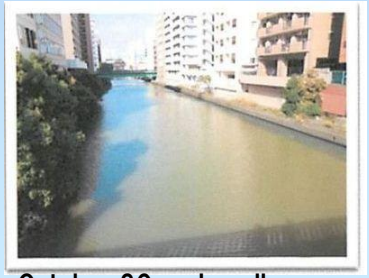

May 28, 2013 grey green

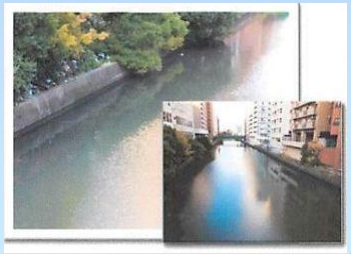

June 25 pale yellow green grey


July 30 pale yellow green grey


August 28 milky white


September 26 pale yellow grey


October 30 pale yellow grey


November 29 pale yellow green grey

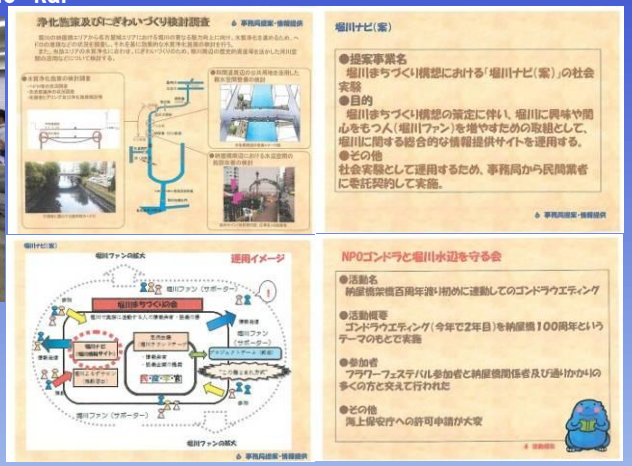

December 27 pale yellow green grey

11. For awareness among citizenship; learning meetings

HSC2010
13th expedition meeting
September 29 (Sun), 2013
Report : Secretariat

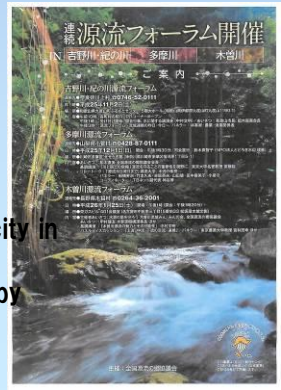
Parent-child 30 pairs; 70 people participated
Kurokawa parent-child observation meeting
August 17 (Sat), 2013

1st Horikawa round table
July 30 (Tue), 2013
Organizer: Horikawa machidukuri-no-kai



2nd Horikawa round table
January 16 (Thu), 2014
Organizer: Horikawa machidukuri-no-kai

Kiso River headwaters Forum >
January 25 (Sat), 2014
Organized by Suigen-no-sato-wo-mamorou Kisogawa-ryuiki-min min-nokai



<10th Making of beautiful port city in Chubu Forum
New attraction in Nagoya made by port city
November 18 (Fri), 2013

For awareness among citizenship; learning meetings

Lecture by Horikawa 1,000 expedition Secretariat
October 19 (Sat), 2013
At 9th Nagoya University Homecoming Day

岐阜・輪之内から視察団

岐阜県輪之内町を流れる大榑川の水質改善や流域美化に官民一体で取り組む「輪之内町地域協働水質改善協議会」の視察団が六日、市内の堀川を訪れ、堀川の水質改善活動をしている名古屋堀川ライオンズクラブ（LC）から活動の現状や成果などを聞いた。

視察団は輪之内町の木野隆之町長をはじめ行政、企業、環境NPO関係者ら二十一人。

水質の浄化活動紹介

堀川中流の納屋橋乗船場（中区）で二隻の屋形船に分かれて乗り込み、下流の宮の渡し乗船場（熱田区）まで船上から観察した。

名古屋堀川LCの服部宏さんらが案内役を務めた。下水処理の高度化や庄内川からの導水効果、活動に加わる市民の増加などを要因に、数年前と比べると、水がきれいになったことを説明した。

木野町長は「堀川の水質浄化の取り組みは、行政、市民、団体などさまざまな方面の協力を得ている。川の周辺からきれいにしていこうという意識も大切なことだ」と述べた。（梅田歳晴）

水質改善活動の現状を説明する名古屋堀川ライオンズクラブの服部さんら＝堀川で

November 7 (Thu), 2014 Chunichi Shimbun, from morning paper

Inspectorates from Wanouchi-Gifu visit Horikawa River
Guide: Nagoya Horikawa Lions club
November 6 (Wed), 2013
Report :御用水跡街園愛護会調査隊・事務局

Public symposium about Horikawa and Naya Bridge for 100 years memorial
Future and Past　To bridge history
January 25 (Sat), 2014
Organized by: (public goods) Nagoya construction business services Foundation

Nakagawa Canal revival Symposium 2013
" Nakagawa canal colored by its history, landscape and art"
November 30 (Sat), 2013

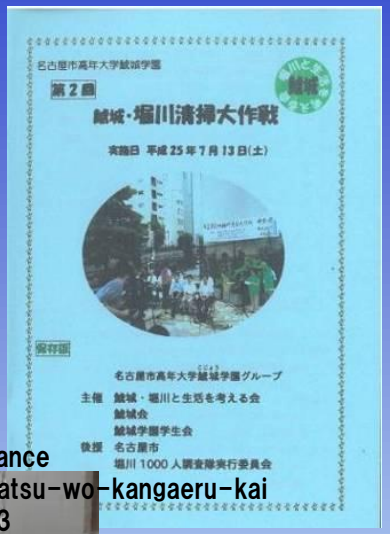
"Good river" Aichi making workshop
Mechanism of technology and promotion of multi- natural river works : theme
January 22, 2014 (Wed)

Marunouchi junior high school freshman experienced Horikawa cruse on board
November 28 (Thu), 2013
Implementation : Nagoya Host Lions club
Board guide : Nagoya Horikawa Lions club

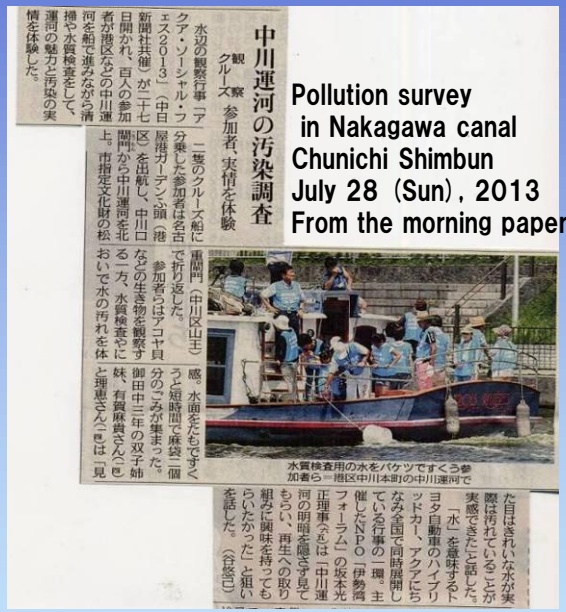
Activities such as research and improved by unofficial support team

Clean-up activitiy
Gifu-Shin Moomin Shimizu Horikawa-oentai
June 15 (Sat), 2013

Kojo-Horikawa cleaning operation
July 13 (Sat), 2013
Production: Kojo-Horikawa-to-seikatsu-wo-kangaeru-kai



Pollution survey
in Nakagawa canal
Chunichi Shimbun
July 28 (Sun), 2013
From the morning paper



中川運河の汚染調査

観察クルーズ 参加者、実情を体験

水辺の観察行事「アクア・ソーシャル・フェス2013」（中日新聞社共催）が二十七日開かれ、百人の参加者が港区などの中川運河を船で進みながら、運河の魅力と汚染の実情を体験した。

一隻のクルーズ船に分乗した参加者は名古屋港ガーデン埠頭（港区）を出航し、中川口閘門から中川運河を北上。市指定文化財の松重閘門（中川区山王）で折り返した。

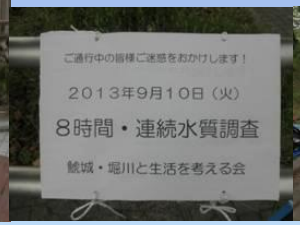
参加者らはアコヤ貝などの生き物を観察するうえ、水質検査やにおいで水の汚れを体感。水面をたもですくうと短時間で麻袋二個分のごみが集まった。

御田中三年の双子姉妹、有賀麻貴さん（一四）と理恵さん（一四）は「見た目はきれいな水が実際は汚れていることが実感できたと話した。

「水」を意味するトヨタ自動車のハイブリッドカー、アクアにちなみ全国で同時展開している行事の一環。主催したNPO「伊勢湾フォーラム」の坂本光正理事（六五）は「中川運河の明暗を隠さず見てもらい、再生への取り組みに興味を持ってもらいたかった」と狙いを話した。（谷越宏己）

水質検査用の水をバケツですくう参加者ら＝港区中川本町の中川運河で

8 hours continuous surveillance
By Kojo-Horikawa-to-seikatsu-wo-kangaeru-kai
September 10 (Tue), 2013



First time clean-up activities
by Ciss survey team "Horikawa-Osoji-tai"
August 27 (Tue), 2013

Fixed part survey and clean-up activities
by Kawasemi Survey team from Nakanihon-kensetsu consultant

Activities such as research and improved by unofficial support team

Cleanup activity by Nanairo member
August 17 (Sat), 2013

Cleanup activities by Goyousui-ato-gaien-aigokai Survey Group

September 6 (Fri), 2013

October 23 (Wed), 2013

November 28 (Thu), 2013

December 2 (Mon), 2013
Injured egret

Fish survey
September 6 (Fri), 2013
Report :Goyousui-ato-gaien-aigokai Survey Group

Opening demonstrations "New style of sho calligraphy"
September 20 (Fri), 2013
Report :Goyousui-ato-gaien-aigokai Survey Group

Pruning of branches of cherry tree
September 27 (Fri), 2013

名港管理

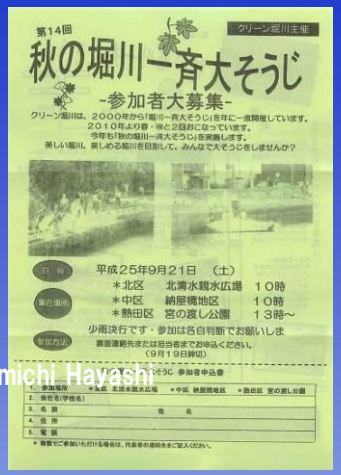
全面更新など視野に

堀川口防潮水門の再整備検討

Kentsu Shinbun
September 10 (Tue), 2013
Renewal of estuary tide floodgate of Horikawa

Activities such as research and improved by unofficial support team

Horikawa Oentai
Kaiyougaku Kenkyujo Mr.Masamichi Hayashi
Taiwan Kaiyogaku schooling
September 10 (Tue), 2013



Clean-up activity in Autumn
Horikawa by Clean Horikawa
September 21 (Sat), 2013
Report: secretariat

Chunichi Shimbun Morning edition
September 13 (Fri), 2013

Chunichi Shimbun Morning edition
January 6 (Mon), 2014

Cleanup activity by Nagoya Horikawa Lionsclub
October 12 (Sat), 2013

Activities such as research and improved by unofficial support team

納屋橋、堀川の歴史紹介

金山 「渡り初め」など資料展示

名古屋駅と栄地区をつなぐ納屋橋と堀川の歴史を紹介する展示会が二十二日、中区金山町一、名古屋都市センター十一階のまちづくり広場で始まった。十一月四日まで。無料。

納屋橋が現在の鉄製のアーチ橋に架け替えられ、今年でちょうど百年を迎えたことを記念し、市民団体の「堀川文化探索隊」と「堀川文化を伝える会」が企画した。

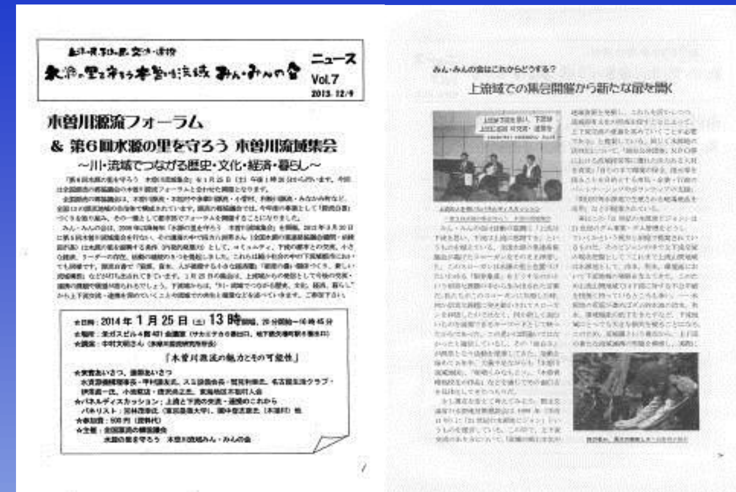
百年前の納屋橋の「渡り初め式」や、水運で活況を呈した大正期の堀川の様子を伝える写真など百点が並ぶ。明治から昭和にかけ、堀川沿いがどう変化したかが分かる地図や、納屋橋と堀川の雑学をまとめたパネルも展示している。

十一月二日午後二時からは、探索隊の伊藤正博さんらによる講演会と対談も開かれる。探索隊事務局の川角信夫さん（六五）＝高浜市＝は「納屋橋百周年を機に、堀川が名古屋の文化や産業の軸を担ってきた歴史を知ってほしい」と話している。（鈴木龍司）

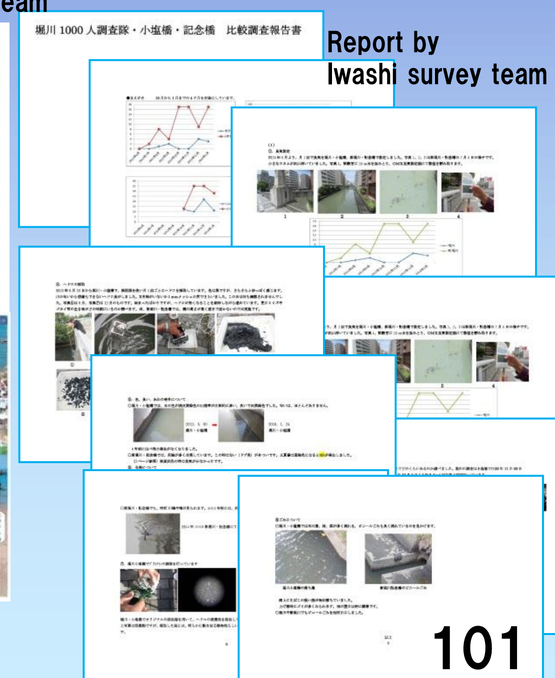
納屋橋と堀川に関する貴重な文献や写真が並ぶ会場＝中区金山町の名古屋都市センターで

Chunichi Shimbun
Morning edition
October 22, 2013

Gallery and lecture
“100 years of Nayabashi, and Horikawa”
October 22-November 4, 2013
Organized by Horikawa bunka tansakutai and
Horikawa bunka-wo-tsutaerukai



Report by Suigen-no-sato-wo-mamorou
Kisogawa-ryuiki-min min-nokai
“Upstream thinks Downstream, Downstream
thanks Upstream”



Report by
Iwashi survey team

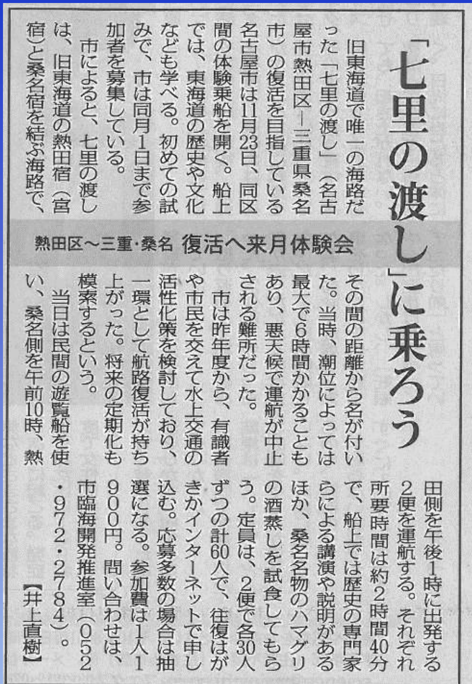
Report by Isewan ryuiki-saisei network

Check HST’s website http://www.horikawa1000nin.jp/

Report by Kamenoko team

Activities of “Free Survey Groups” & “Cheering Groups”

“Switch” on Tokai TV program focused on Goyosuiato-gaien-aigokai-chosatai, 2013/12/3 (Tue)



「七里の渡し」に乗ろう

熱田区〜三重・桑名　復活へ来月体験会

旧東海道で唯一の海路だった「七里の渡し」（名古屋市熱田区—三重県桑名市）の復活を目指している名古屋市は11月23日、同区間の体験乗船を開く。船上では、東海道の歴史や文化なども学べる。初めての試みで、市は同月1日まで参加者を募集している。

市によると、七里の渡しは、旧東海道の熱田宿（宮宿）と桑名宿を結ぶ海路で、その間の距離から名が付いた。当時、潮位によっては最大で6時間かかることもあり、悪天候で運航が中止される難所だった。

市は昨年度から、有識者や市民を交えて水上交通の活性化策を検討しており、一環として航路復活が持ち上がった。将来の定期化も模索するという。

当日は民間の遊覧船を使い、桑名側を午前10時、熱田側を午後1時に出発する2便を運航する。それぞれ所要時間は約2時間40分で、船上では歴史の専門家らによる講演や説明があるほか、桑名名物のハマグリの酒蒸しを試食してもらう。定員は、2便で各30人ずつの計60人で、往復はがきかインターネットで申し込む。応募多数の場合は抽選になる。参加費は1人1900円。問い合わせは、市臨海開発推進室（052・972・2784）。【井上直樹】

Mainichi Shinbun
2013/10/23(Wed)Morning eddition

2013年（平成25年）11月13日（水曜日）

市の次期総合計画　ネットで議論を

名工大の3研究室　19日正午からサイト開設

「災害に強いまち」など4テーマ　意見まとめ市長へ

市が策定作業を進める二〇一四年度から一八年度までの次期総合計画について、市民が意見を出し合うウェブサイトを、名古屋工業大の三研究室が開設する。十九日正午から議論が始まり十二月二日正午まで続く。集約された意見を報告書にまとめ、河村たかし市長に提出する。（中村禎一郎）

市は十月二十八日に総合計画の中間案を発表した。今後、河村市長が市民から直接意見を聞く対話集会も全十六区で開き、来年五月ごろ、最終計画案をまとめる。

サイトを開設する秀島栄三教授（土木計画）、伊藤孝行准教授（情報工学）、伊藤孝紀准教授（環境デザイン）の三研究室は「対話集会には制限がある。インターネットでより多くの人の意見をまとめたい」と狙いを説明。市も協賛する。

中間案の内容に合わせ、「人権が尊重され、誰もがいきいきと過ごせるまち」「災害に強く安全に暮らせるまち」など四つのテーマを用意。興味あるテーマを選び、自分の意見を書き込んだり、他の意見を聞いたりしながら議論する。調整役の専門家「ファシリテーター」に協力を求め、サイト上の意見のまとめを担当してもらう。三研究室は期間中の議論に多大な貢献があった参加者に、市長感謝状を贈ることも考えている。

名工大大学院一年の伊美裕麻さん(二三)ら研究室のメンバー十一人は既に市職員と打ち合わせをし、ファシリテーターの役割やPR方法について意見を交わした。

インターネットで「collagree（コラグリー）」と検索。サイトで会員登録（無料）すれば誰でも参加できる。スマートフォン（多機能携帯電話）からも利用できる。

サイト画面を出して市職員らと打ち合わせる名工大研究室の人たち＝市役所で

Chunichi Shinbun
2013/11/13 (Wed) Morning eddition

街を創る　北区　地域と共生する黒川

子どもの遊ぶ清流を再生

水と親しみ命に触れる　体験で知る豊かな自然

水質は改善、ごみ減量が課題

5ヵ所の見どころ 歩いて探訪

楽しく学ぶ川の大切さ

黒川ドリーム会会長　梅本隆弘さん

Chubu Keizai Shinbun 2013/12/30 (Mon)
Activity of “Kurokawa Dream Kai”

Show at Horikawa Gallary
2013/11/12(Tue)〜12/1(Sun)
Kojo/Horikawa-to-Seikatsuwo-Kangaerukai

The 19th Clean Project in Autumn
2013/11/16(Sat)
Ise Bay Basin Network

Water suply start 100th anniversary photo exhibition
2014/1/15(Wed)
Report:Goyosuiato-gaien-aigokai-chosatai

Horikawa Clean Experiment of Chinese water spinach 2013/6/21 (Fri)～10/16 (Wed)

Ena agricultural High School and Nagoya Horikawa Lions Club experimented this year. Place:near the pier of Naya Bridge

2013/10/16 (Wed)
Removal work

The living came floating mass of Chinese water spinash 103

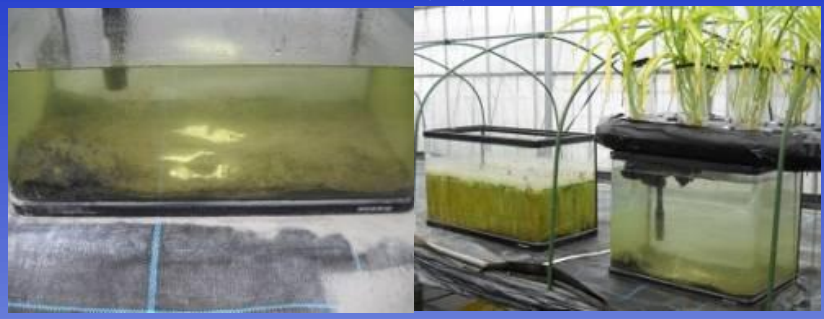
Activities of “Free Survey Groups” & “Cheering Groups”

2013/10/16 (Wed)
Pick up sludge

Date of Horikawa river water quarity

Ena agricultural High School Sludge, of Horikawa river, analysis exerimennt is under sontinuation.

2013/7/30 (Tue)



2013/10/8 (Tue)

Reconstruction support activities by the Chinese water spinach cultivation at the farmland of tsunami hazard area of the Great East Japan Earthquake.

Many fish were in the trap.

Small fish like mosquito fish

Shrimp, Crab and Larva and so on

Many bivalves was attached to the basket.

Events

The 9th"Horikawa Eco-robot Contest 2013"
2013/8/25 (Sun)
Sponsorship:
Nagoya-Horikawa Lions Club
Nagoya Inst. of Technology

Mainichi Shinbun
2013/8/26 (Mon)
Morning eddition

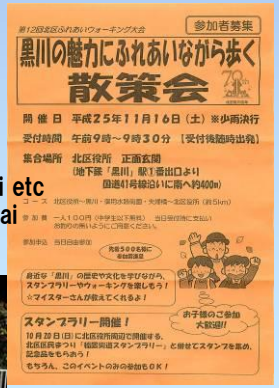
Kiso Slow Food Highway Festa
2014/2/8 (Sat)

The 11th Horikawa Water Magic Festibal
Collaborative event
"Horikawa Oyako Kankyo Cruise"
2013/10/5 (Sat)

Picnic in Naya Bridge
2013/10/27 (Sun)

The 11th Horikawa Water Magic Festival
2013/10/25 (Sat) 27 (Sun)

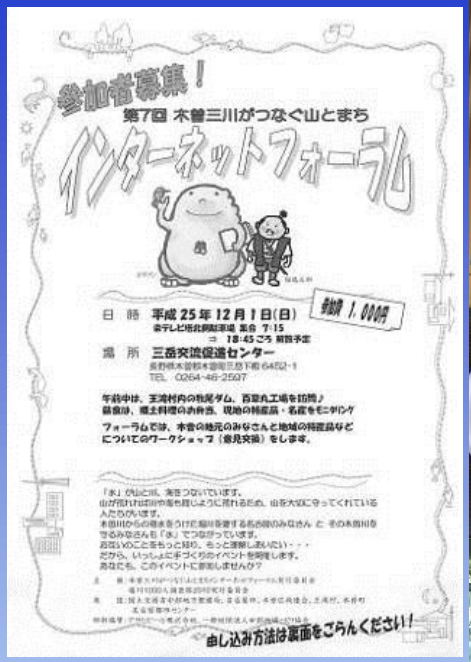
"Walking event, while feeling
the charm of Kurokawa river"
2013/11/16 (Sat)
Organizar: Kita Word, Kurokawa Dream Kai etc
Report: Goyosuiato-gaien-aigokai chosatai

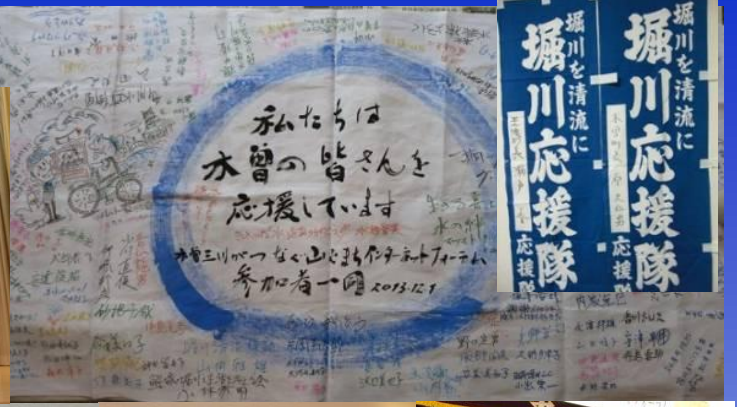


Nagoya Ecological Day 2013 in Autumn
2013/9/14 (Sat)
Dislay: Nagoya-Horikawa Lions Club,
Nagoya city silver college the 27th department of environmentology,
Ise Bay Basin Reclamation Network

Sewerage Science Museum Festival
2013/9/7 (Sat) 8 (Sun)
Report: Goyosuiato-gaien-aigokai chosatai

Events





名古屋市民 すんきに関心
木曽三川フォーラム

木曽・王滝

木曽川の上流域と下流域の住民が交流する「第7回木曽三川がつなぐ山とまちインターネットフォーラム」がこのほど、木曽町の三岳地区と王滝村で開かれた。名古屋市民ら145人が、水源のダムの見学やカブ菜を乳酸発酵させた無塩の漬物「すんき」について学び、親睦を深めた。

王滝村の長野県製薬と牧尾ダムを見た後、木曽町の三岳交流促進センターですんきに関する意見交換会を開いた。すんきの普及活動を行っている「すんき研究会」の北川聡会長や会員の深沢裕子さんら4人が、すんきの歴史や漬け方、食べ方などを丁寧に紹介した。

出席者からは「どんなカブ菜を使うのか」「すんきの『たね』とは何のことか」といった質問があり、北川会長らが「原料の赤カブは6種類あり、いずれも『信州の伝統野菜』に登録されている」「『たね』は既製のすんきのことで、昔は寒干しして夏場も食べていた」と話した。

フォーラムは、木曽郡内と下流域をインターネットの生中継の映像などで結んで始まった。数年前から郡内を直接訪れて交流している。（田中理子）

7th Kiso three rivers connects mountains and urban area internet forum
2013/12/1 (Sun)
Plan/organization: Kiso three rivers connects mountains and urban area internet forum executive committee,
Horikawa Sen-nin Chosatai 2010 executive committee (joint)
Special cosponsorshi: Asahi Breweries Ltd.
General incorporated association Chubu-chiikidukuri Kyokai