

# BHP

## Renova Foundation update

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# About the Foundation

The Renova Foundation was incorporated as a private, non-profit foundation by Samarco, BHP Brasil and Vale in June 2016 to implement 42 socioeconomic and socioenvironmental programs outlined in the Framework Agreement.

- Operational since **2 August 2016** with respected CEO - **Roberto Waack** (former WWF Brasil, GRI, Forest Stewardship Council)

## Current focus:

- Assembling a technically and functionally competent team of 135 people supported by thousands of contractors. Establishing technical advisory bodies including IUCN Panel
- Moving from emergency phase to strategic, structured way of working focused on engagement and delivery of outcomes
- Strengthening relationships and collaboration with communities, academia, NGOs, governments and regulators

## BHP Brasil Support

- Secondments and appointment of Board members

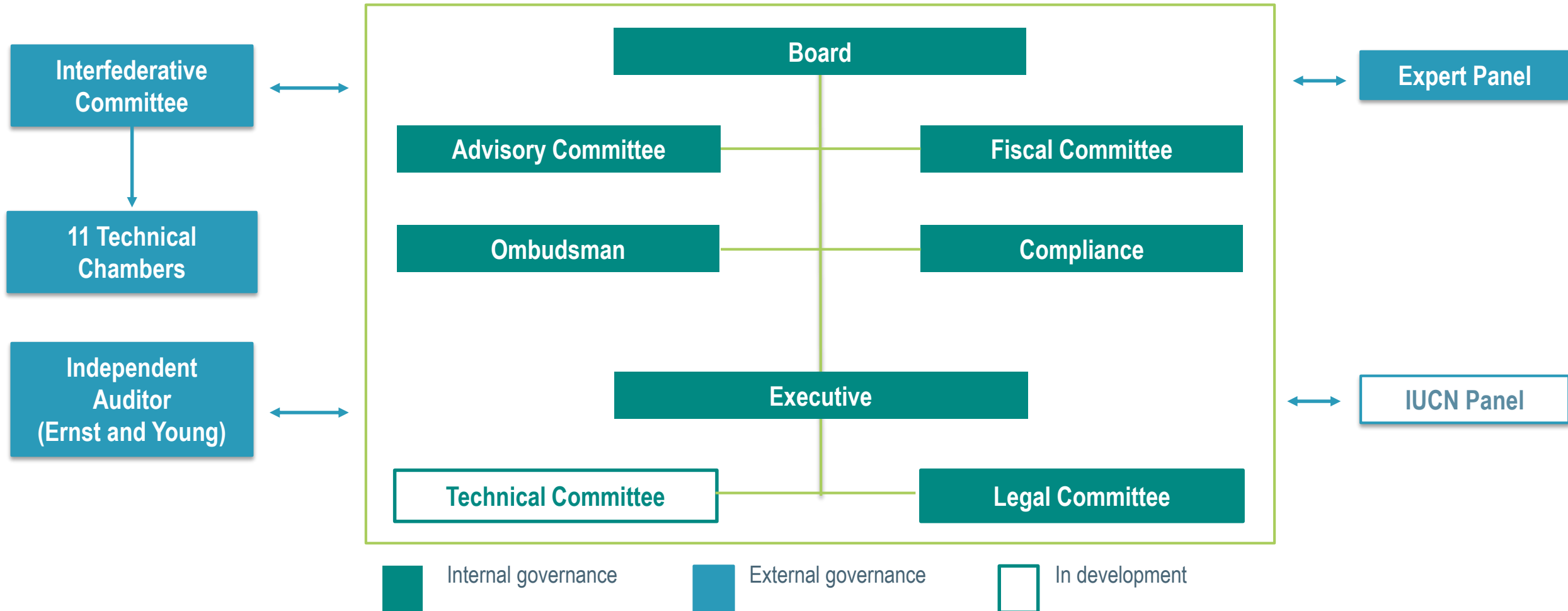
## 2017 Budget - BRL1.94 billion

Renova Foundation update  
June 2017



Roberto Waack

# Renova governance





# Key achievements

- Resettlement process
- Infrastructure reconstruction
- Wet Season Plan implementation
- Tailings containment and water quality



# Key challenges

- Difficult operating context
- Program scope and complexity
- Delays in some programs
- Organisational challenges



# Preliminary Agreement with Federal Prosecutors Office

## 2 March 2016

Samarco, Vale and BHP Billiton Brasil entered into Framework Agreement (FA) with the federal government (among others) for remediation and compensation of the impacts associated with the dam failure to settle a BRL 20 billion (approx. US\$6.1 b) civil claim. Federal Prosecutors were not a party to the FA and subsequently issued BRL155 billion (approx. US\$47.5 b) civil claim.

## 18 January 2017

The Federal Prosecutors Office entered into a Preliminary Agreement with Samarco, Vale and BHP Billiton Brasil outlining process and timeline to settle the BRL 20 billion, BRL 155 billion and Ponte Nova I claims.

### The Preliminary Agreement includes provision for:

- Prosecutors to be supported by **technical advisors**, who are performing impact studies and reviewing the adequacy of the existing programs. This advice will be considered in the negotiations towards a settlement of the BRL20b and BRL155b cases
- Extensive **community consultation** in the development of the final agreement through public hearings
- Provision of **technical support** to communities in all impacted regions
- **Lactec** has commenced environmental impact studies and **Ramboll** is undertaking a review of progress of the Renova Foundation's socioeconomic and environmental programs
- BHP Brasil, Samarco and Vale are in discussions with the Prosecutors in relation to a socioeconomic consultancy to undertake the social impact assessment



# Renova thematic areas





# Theme 1: People and communities



Approval of the conceptual urban design for Bento Rodrigues

- **Registration and compensation** - identifying all impacted people and fully and fairly compensating them
- **Education and culture** - school reintegration and restoration/preservation of historical, cultural and artistic heritage
- **Health care and wellbeing** - physical and mental health of impacted populations
- **Traditional and Indigenous communities** - understanding and addressing impacts
- **Economic development** - fishing, agriculture, economic diversification, local employment and small business development
- **Engagement and dialogue** - encouraging participation of the communities in decision-making

# Registration and compensation

## Registration

Registration enables all impacted people to be identified to participate in the socioeconomic programs including compensation

- An emergency registration in 2015 identified ~8500 families. A more robust registration process is nearing completion with **15,000 families** already included and of these, 8,000 families (about 30 thousand people) have been validated formally by the IFC.

## Financial Assistance

- **~8,000 financial assistance** cards have been distributed with ~5,500 of those being for fishermen

## Mediated Indemnity Program

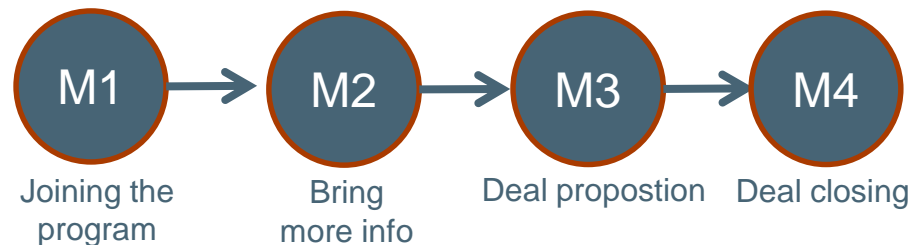
- Largest compensation program in Brazil - over 500 people are involved in implementing the program across 12 offices
- The program operates in two streams – **water shortage** and **general damages** (e.g. property loss, business impact, equipment etc.)
- Compensation for interrupted access to water commenced in October 2016 in Governador Valadares and Colatina focusing on indemnity for water shortages
- Families receive set amounts of BRL880 or BRL1000 depending on number of days without water (7-10 days)
- **~400,000 people** will be entitled to compensation for interruption to water supplies along the Rio Doce
- As at the end of April 2017, over **110,000 proposals had been generated** with **90,000 accepted** and **34,000** paid

# Mediated indemnity program offices



# General damages compensation

- The 15,000 families registered may be eligible for **general damages**. Key areas include fishing, tourism and agriculture
- Staff in the mediation centres include supervisor, analysts, mediators, secretary and lawyer. The mediators and lawyer are not Renova staff. Renova has retained one of Brazil's most respected mediators to coordinate the mediator teams
- Key challenges include:
  - some damages have not yet ceased (e.g. fishing)
  - claimants' inability to prove losses due to informal nature of activities
  - lack of official government data
  - questions raised in the definition of impacted people
  - high demand and increasing pressure to pay compensation due to the length of time since the dam failure
- The full compensation process for an individual takes ~45 days:



Sergio Pires, Manager Linhares PIM Office



# Health and wellbeing

## Actions to date

- All impacted people have been provided with access to psycho-social support
- Emergency actions are ongoing, with a team of over 60 physicians, nurses, social assistants, psychologists and psychiatrists available to care for the affected population.
- Existing municipal facilities have been upgraded for both clinical treatment and social services. On 8 April, a new Basic Health Unit was officially delivered to the residents of Bento Rodrigues and Paracatu. It offers care in the areas of general practice, gynaecology, paediatrics, psychiatry, psychology and nutrition, among other specialties

## Upcoming actions

- During 2017 more structured initiatives will be introduced following a diagnosis of health services and feedback from the local community
- Actions will include specialized care services e.g. to the elderly and the young
- A long-term epidemiological and toxicological study is currently in the planning phase and it will monitor changes in health, if any, over a 10 year timeframe



New Basic Health Unit for primary health care, Mariana

# Economic development

## 249 businesses were assisted in the emergency phase

- Many were stores that were rebuilt or refitted with support for service providers who had lost their equipment
- A principle that forms the basis of this program is that the new business be better than the old one
- Renova is providing **technical assistance** to small businesses e.g. working with sand miners to undertake technical analyses of sand to determine any changes to properties and provision of support with their markets
- Renova has an internal target that **local labour** accounts for at least 60% of its total workforce
- In 2016, 61% of the labour necessary for the remediation programs was recruited in the region, **benefiting 1759 people**



Renovated store



# Fishing ban - May 2017 update

The ban on fishing is a complex technical and social issue involving communities, regulators, public prosecutors, academia and the Renova Foundation

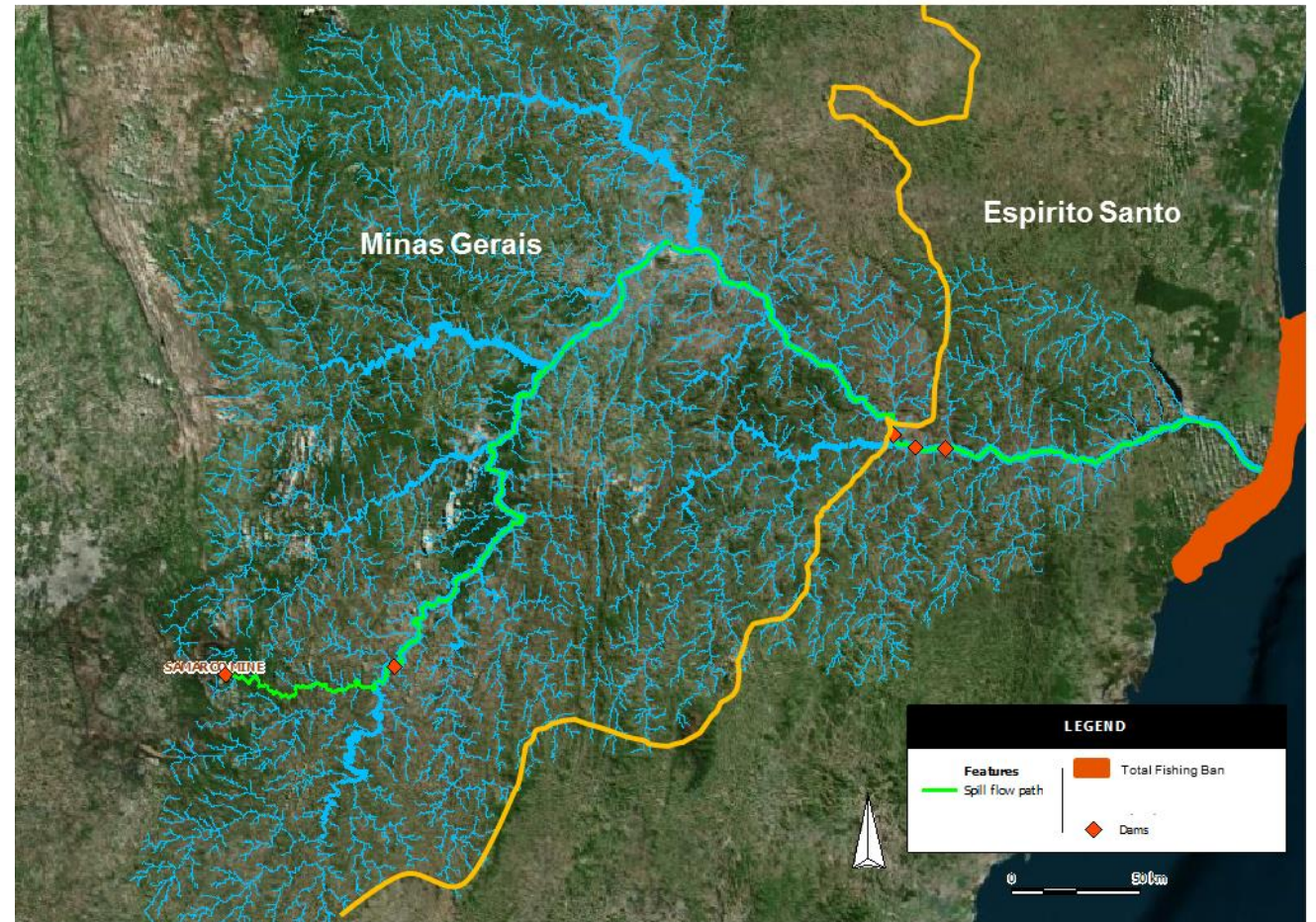
- ~5500 fisherfolk receiving assistance card
- Early concerns about metal toxicity of fish from tailings are not supported by soil, water, fish tissue and ecotoxicity testing

## Minas Gerais State

- Rio Doce and tributaries - ban on fishing native species only (total ban recently lifted)

## Espirito Santo

- Rio Doce & tributaries – no ban
- Coastal zone – total ban



# Theme 2: Land and Water



Revegetation



- **Land use** – includes cleaning out debris and sediment from the river and stream beds where required, stabilising river banks, erosion control and planting native forest species to recover of riparian vegetation
- **Water Management** – compensatory programs to restore 40 thousand hectares of Permanent Conservation Areas along the entire Doce river basin and recover 5000 springs
- **Tailings management** – developing and implementing plans to manage tailings in each section of the river
- **Biodiversity** - aquatic fauna and flora along the entire course of the Doce river and the water bodies that flow into it
- **Aiding animals** – rescue and care of both large farm animals and smaller pets
- **Innovation** – research and development into economic opportunities to use tailings



# Land use – forest restoration of Doce River Valley

- The vision of this program is to integrate restoration activities and agricultural production
- Terms of Reference have been determined
- On 3 and 4 May, experts, researchers and representatives of environmental agencies and civil society participated in a knowledge exchange workshop to discuss social, economic and environmental alternatives for forest restoration based on previous successful experiences
- Inputs from the working groups will be analysed and consolidated with the aim of producing an economically viable Forest Restoration Action Plan for the Doce River Valley
- TTAC provision is to restore 40 thousand hectares as a compensatory program
- Resources will be leveraged by integrating new and existing State and Federal programs



Seed collection for revegetation

# Water management - monitoring

## Water indicators have returned to pre-event levels

Comparative data released by the Institute for Water Management of Minas Gerais (IGAM) on 4 May show that water quality indices in the Doce River Basin in the stretch after the Candonga Plant, are similar to the period before the dam failure

- A Quantitative Systematic Monitoring Plan is in implementation
- 5 of 27 automatic stations are already installed to monitor pH, turbidity, dissolved oxygen, flow, etc. The stations will produce integrated online data
- Another 55 points in Rio Doce and others in the coastal zone have manual monthly collections to monitor a range of parameters (metals, etc.).
- Quarterly reports will be produced with qualitative analysis provided by Renova.
- Rio Doce is already the best monitored water course in Brazil with > 5 million datapoints collected



Water collection for monitoring

# Water management - springs recovery

- Recovery of **5000 springs** over the next 10 years in priority watersheds will contribute to cleaning the river stream beds and improve river quality
- The first step is to fence and protect the springs and to regenerate the vegetation and ensure there are 1,200 native plants per hectare
- Through the partnership with **Instituto Terra**, the first 511 springs were fenced by March 2017
- Springs are generally on private property so approval is required by landowners. The social dialogue team supports the environmental technicians as not all landowners understand the importance of protecting water sources
- Farmers receive the fencing materials and funding for construction but are not compensated for loss of agricultural land
- Many water sources remain partially accessible to cattle but revegetation is rapid due to the high rainfall and warm climate.



Fencing natural springs



# Water management - springs recovery





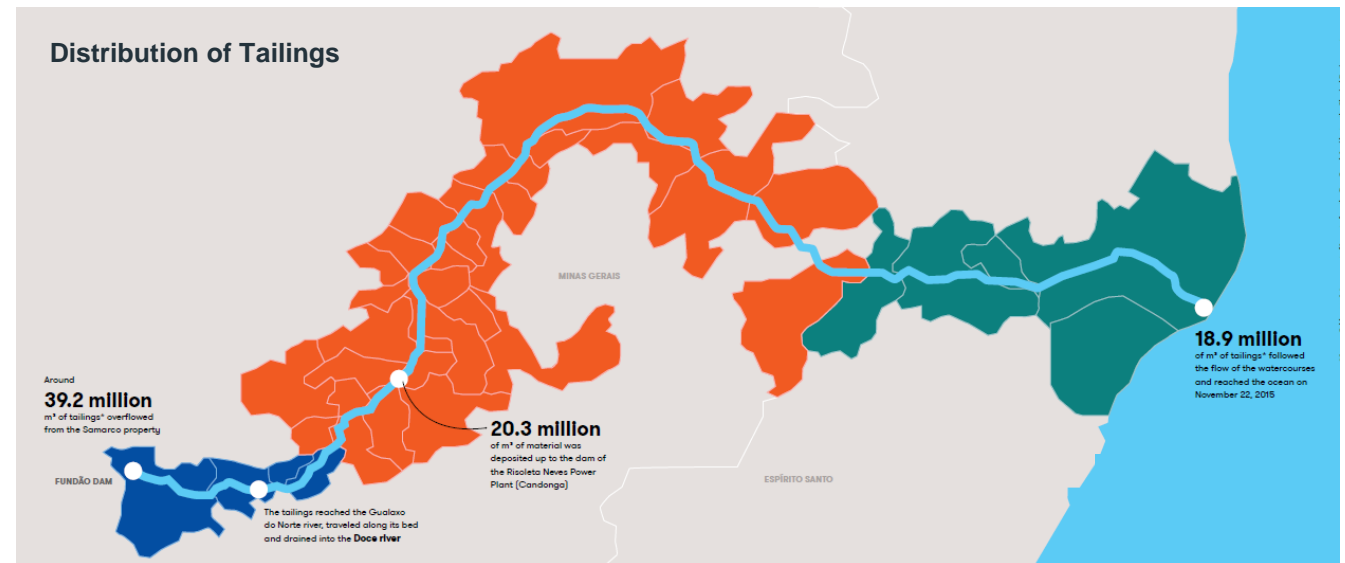
# Water management - springs recovery



# Tailings management

## Tailings Management actions are expected to be completed by 2019

- On 20 April, Renova submitted an integrated **Doce River Tailings Management Plan** to the IFC, Federal and State environmental regulators. The Plan was informed by 80 experts from 30 institutions, including universities, environmental agencies and consultancies, during three workshops held by Renova
- Approximately 50% of the tailings is deposited in the 113 km from Fundao dam in three areas - on the Gualaxo do Norte riverbanks, in tributaries and in the river bed.
- On the **riverbanks**, about 1200 ha (70%) are priority. Renova has completed 88% of the planned activities including bioengineering and reforestation
- In the **101 tributaries**, 79 are completed. Work includes channel cleaning (with the removal of tailings) and physical stabilisation of the watercourse. It aims to maintain original features of the tributaries, wherever possible.
- In the 113 km of **river bed**, 75 km are considered a priority. Conceptual solutions have been identified and implementation schedule defined in the Tailings Management Plan for these areas. For further 38 km, additional studies are required.





# Theme 3: Reconstruction and infrastructure



Conceptual Urban Design Project of Bento Rodrigues



- **Resettlement** – rebuilding the three communities of Bento Rodrigues, Paracatu and Gesteira
- **Urban infrastructure and access roads** – rebuilding all impacted roads and infrastructure, predominantly in Barra Longa and Mariana
- **Tailings containment** – analyses of the structures impacted by the Fundão dam failure, preventative actions and controls already in progress or to be adopted
- **Treatment of water and effluent** - delivery and monitoring of compensatory sanitation program funds to municipalities

# Resettlement








- Bento Rodrigues and Paracatu are progressing to plan
- Communities are completing urban planning while environmental field studies are being done
- **Resettlement Working Groups** are meeting regularly (currently weekly) and special meetings are being conducted with the elderly
- All basic engineering design (earthworks, drainage, containment, water network, sewage network) has been completed for Bento and the process of contracting the infrastructure works is expected to be completed in the next two months
- Next steps are environmental licensing and architectural design of houses. Meetings have started with the families on house design with one architect available for every 15 families
- Construction of the allotment infrastructure is due to commence in August 2017
- The Public Prosecutor's Office is mediating in relation to the acquisition of the land chosen by the Gesteira community



Residents visiting new location



# Features of the new Bento Rodrigues

BENTO ORIGINAL	OUR PROPOSAL	FEATURES OF THE LAND	
<b>34</b> hectares	<b>375</b> hectares	 <b>LAND</b> chosen by more than 90% of the population	 <b>SOURCE OF WATER</b> supply of uncontaminated water in the proximity
Level area	Area with slopes	 <b>SOIL</b> suitable for plantation and raising livestock	 <b>ACCESS</b> planned roads, closer and better connected cities
Subdistrict of Santa Rita Durão (Mariana - MG)	District of Mariana (MG)	FEATURES OF THE PROJECT	
<b>23.5</b> km from Mariana (MG)	<b>8</b> km from Mariana (MG)	 New squares and public areas	 Neighboring relations maintained
Rural community	Urban community	 Green areas preserved	
Occupation without advance planning, starting in the 17 <sup>th</sup> century	Two-way streets with sidewalks		
Plots in a range of sizes	Plots of at least 250m <sup>2</sup> complying with municipal legislation		

# Urban infrastructure and roads

- 157,000 m<sup>3</sup> material removed from Barra Longa
- Reconstruction of houses and infrastructure is progressing to plan
- Of the 99 houses to be renovated, 95 have been completed and handed back to residents
- 34 of the 36 commercial establishments have been completed
- 28 of 49 rural properties renovated and cleaned
- 2.2km of paved roads completed, 110 km of unpaved roads recovered
- Barra Longa town square and river boulevard precinct completed and commemorated with a community event in December 2016



The new Manoel Lino Mol Square in Barra Longa

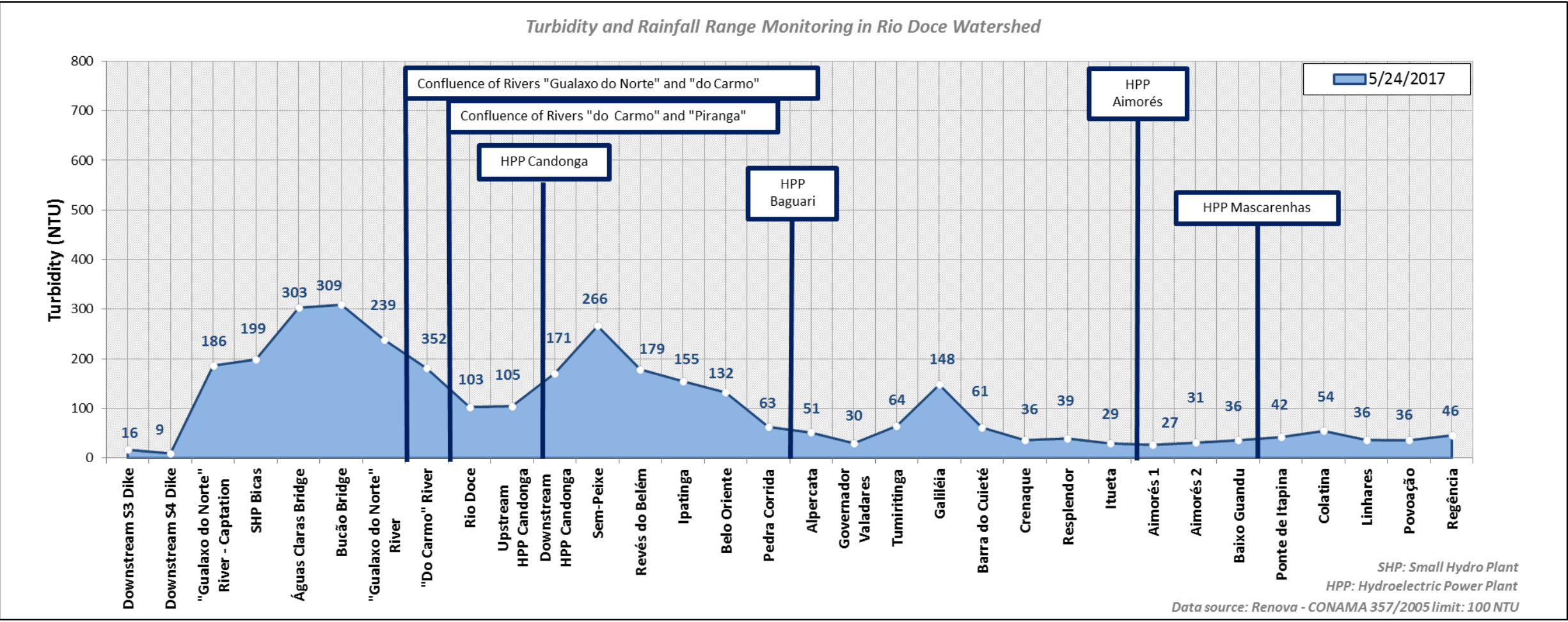


# Tailings containment - dam remediation





# Water quality status



**BHP**