Consorzio per la Bonifica della Capitanata
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Il Consorzio per la Bonifica della Capitanata

Attività e territorio

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Attività e territorio

This publication briefly traces the reclamation and wants to be only a reference for those who have an interest in the activities of the Bonifica Capitanata Consortium and its role on the territory. Here is not told the story of the reclamation, that has been able to change territories from malarial swamps always flooded to fertile plains, nor is not considered the still possible potential development, but this is a synthetic guide, not exhaustive at all, which helps to identify the diffused works on the territory that guarantee hydraulic safety and irrigation.

This guide is preceded by ten questions whose answers introduce knowledge of the consortium institution, its functions, the rules that regulate it and the mechanisms for managing it.

TEN QUESTIONS

What is a reclamation consortium?

A reclamation consortium is a public legal entity with an associative structure, administered by its farmers. It implements public actions to protect soil, to protect and use water resources and to safeguard environment. It designs and makes the reclamation works and it provides for their maintenance and management. Bonifica Capitanata Consortium was established with Republic President Decree issued on 10th May 1965, through the merger of pre-existing nine reclamation consortia, and it currently operates on the basis of the Regional Law and of the rules contained in its Statute.

What are the rules on the reclamation?

The importance and function of hydraulic reclamation is considered by Italian legislation at highest level, with the provision contained in art. 44 of Italian Constitution. Also in civil code (art. 857-865) there are laws on reclamation.
The fundamental text regarding works and reclamation consortia is still today the Royal Decree n. 215 issued on 13th February 1933 and Apulia Region, with the Regional Law n. 4 issued on 13th March 2012 called *"New rules on integral reclamation and reorganization of reclamation consortia"*, governs their activities, public intervention methods and functions. The laws aforementioned also contain the rules relating to the taxing power of the consortium and to the obligation to pay reclamation contributions.

What is meant by reclamation district?

It is a territorial area, defined by Apulia Region, homogeneous from a hydraulic and functional point of view in relation to the needs of coordination and organization of the reclamation activity. The Capitanata territory covers an area of 440.459,00 hectares involving thirty-six municipalities in Foggia Province and three in BAT Province, and it is one of the most extensive in Italy.

What are the reclamation and irrigation works?

They are the works destined to create and maintain the hydraulic structure of the territory, such as reclamation canals, lifting water systems, canal locks and the other hydraulic infrastructures. Reclamation works are also the ones which are destined to bring drinking water to rural settlements.
Dams, transportation networks, canals, piezometric towers, sectoral networks and distribution systems are irrigation works.

San Pietro dam on the Osento river.

Occhito dam.

Marana Capacciotti dam.

Capaccio dam on the Celone stream.

Who bears the cost of the works?

The expenditure for the construction of new reclamation and irrigation works bears on the regional and state budgets. The works belong to the public domain.

Who are the consortium members?

All owners (both natural and legal persons) of the properties falling within the reclamation area, who receive a benefit from the works and the reclamation activities, are obligatorily associated in the Reclamation Consortium, and therefore acquire the status of consortium members.

What are the management bodies of Consortium?

Consortium is an association-based body, the Council is elected by all the consortium members and this, in turn, elect the President. Each consortium member can stand for consortium positions, on the occasion of the elections held every five years.

Why pay the consortium contribution?

The expenditure for the maintenance, operation and custody of the integral reclamation works, as well as those necessary for the functioning of the Consortium, is borne by the consortium members and is distributed on the basis of the benefit provided to the properties by hydraulic works and reclamation activity, in compliance with the criteria set in Ranking Plan.

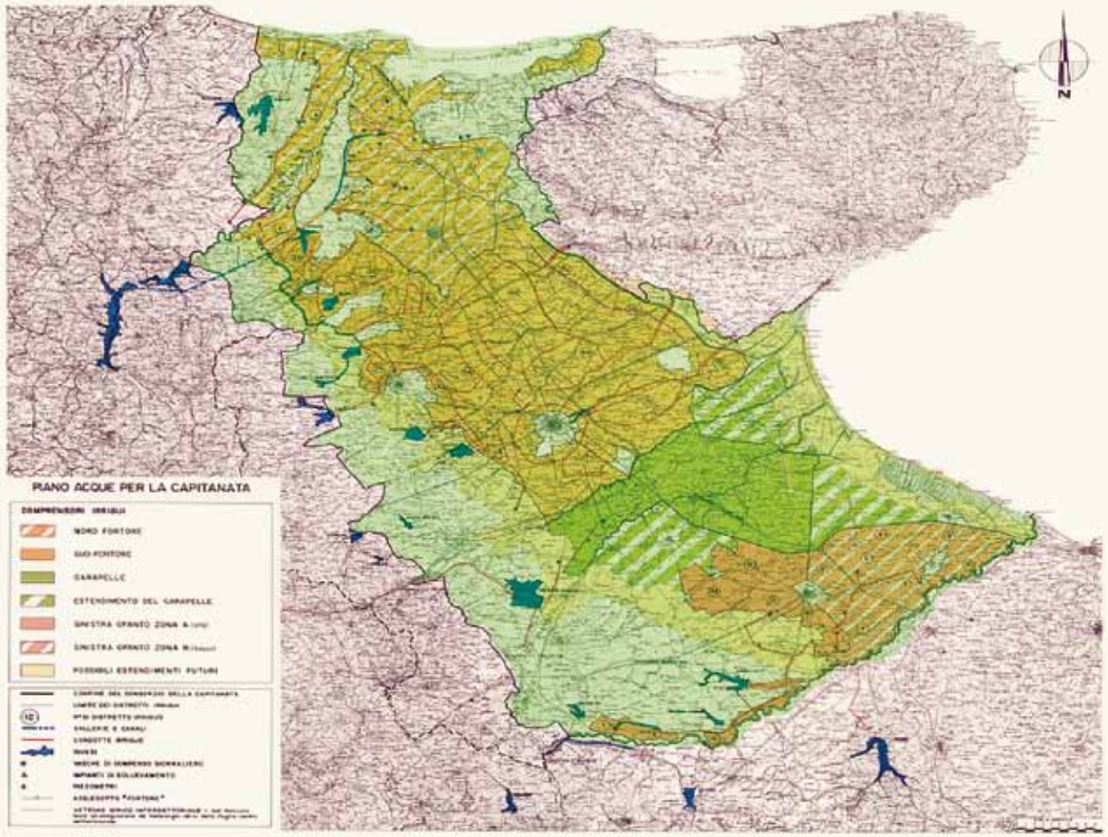
What is Ranking Plan?

The Ranking Plan quantifies the benefit brought to each property included in the contribution perimeter on the basis of technical and economic parameters and constitutes the tool for the correct exercise of the taxing power by Consortium.

What is "taxing power"?

It is the power that the law assigns to all reclamation consortia to impose contributions on consortium members to meet the operating, maintenance and safekeeping costs of reclamation works and irrigation systems, as well as the operating costs of the organization.

Territory



Bonifica Capitanata Consortium extends its reclamation territory on an area of **440,459.00** hectares, involving the countryside of thirty-six municipalities in Foggia Province and three in BAT Province.

Municipalities	Total area of municipalities territory in hectars (*)	Area included in Consortium land register in hectars (**)	Percentage of area included in Consortium land register compared to total area of municipalities territory	Percentage of area included in Consortium land register compared to total area of reclamation territory
Apricena	17,250.53	14,302.00	82.91%	3.25%
Ascoli Satriano	33,668.47	33,433.00	99.30%	7.59%
Biccari	10,664.62	2,638.00	24.74%	0.60%
Bovino	8,493.11	3,165.00	37.27%	0.72%
Candela	9,681.56	9,206.00	95.09%	2.09%
Carapelle	2,500.21	2,461.00	98.43%	0.56%
Casalnuovo Monterotaro	4,836.48	1,745.00	36.08%	0.40%
Casalvecchio	3,193.26	2,780.00	87.06%	0.63%
Castelluccio dei Sauri	5,147.45	5,086.00	98.81%	1.15%
Castelnuovo della Daunia	6,148.84	4,718.00	76.73%	1.07%
Cerignola	59,393.40	58,849.00	99.08%	13.36%
Chieuti	6,152.31	6,091.00	99.00%	1.38%
Deliceto	7,585.34	2,908.00	38.34%	0.66%
Foggia	50,926.32	50,225.00	98.62%	11.40%
Lesina	16,015.61	15,932.00	99.48%	3.62%
Lucera	33,979.27	33,700.00	99.18%	7.65%
Manfredonia	35,454.37	25,589.00	72.17%	5.81%
Margherita di Savoia	3,569.83	3,557.00	99.64%	0.81%
Ordona	3,956.58	3,845.00	97.18%	0.87%
Orsara	8,301.27	1,301.00	15.67%	0.30%
Ortanova	10,523.99	10,512.00	99.89%	2.39%
Pietra Montecorvino	7,164.65	2,597.00	36.25%	0.59%
Poggio Imperiale	5,288.33	5,221.00	98.73%	1.19%
Rignano Garganico	8,939.83	4,022.00	44.99%	0.91%
Rodi Garganico	1,344.74	205.00	15.24%	0.05%
San Ferdinando di Puglia	4,123.05	4,122.00	99.97%	0.94%
San Paolo Civitate	9,116.20	9,109.00	99.92%	2.07%
Serracapriola	14,336.07	14,268.00	99.53%	3.24%
San Nicandro Garganico	17,336.03	4,367.00	25.19%	0.99%
San Giovanni Rotondo	26,188.32	5,600.00	21.38%	1.27%
San Marco in Lamis	23,420.12	5,140.00	21.95%	1.17%
San Severo	33,631.03	33,137.00	98.53%	7.52%
Stornara	3,386.35	3,348.00	98.87%	0.76%
Stornarella	3,381.28	3,316.00	98.07%	0.75%
Torremaggiore	21,001.44	20,804.00	99.06%	4.72%
Trinitapoli	14,876.83	14,718.00	98.93%	3.34%
Troia	16,824.79	13,078.00	77.73%	2.97%
Volturino	5,834.81	1,265.00	21.68%	0.29%
Zapponeta	4,174.65	4,099.00	98.19%	0.93%
total	**557,811.34**	**440,459.00**		**100.00%**

* Source: 2011 ISTAT data ** Consortium Data Processing Center

Reclamation works

Due to the vastness of the catchment areas and the unhealthy conditions of the land, Consortium has carried out important reclamation and hydraulic defense projects since the beginning of its establishment. In a long and patient work it has made large territories cultivable at an altitude below sea level, proceeding to recovery of large swamps, first filling them with soil, and then, in consideration of the long times necessary, removal excess waters through draining machines. At the same time, works were carried out to regulate rivers and streams, aimed to balance of geomorphological structure, reduction the flooding and reclamation of lands that lacks drainage; activities that have been the main occupation of the Consortium until the sixties.
Currently the scheme of the large hydraulic network under maintenance is delimited to the north by *Fortore* river and its tributaries and to the south by *Ofanto* river, and includes:

n. 55 public streams and rivers under maintenance – length serviced 1,201.76 km;

n. 177 reclamation channels – length serviced 966.32 km;

n. 72 mechanical and river equipment.

To understand how dense the hydraulic network is, just an examination of the sections subjected to hydraulic maintenance by the Consortium for each municipality falling in the reclamation territory indicated in the table below.

San Pietro dam on the Osento river.

Calyx spillway on Marana Capacciotti dam.

Municipalities	Public waterways (km)	Reclamation channels and natural waterways arranged by Consortium (km)
Apricena	9.74	22.07
Ascoli Satriano	79.64	27.59
Biccari	9.75	0.00
Bovino	23.39	0.88
Candela	27.58	33.07
Carapelle	23.35	4.81
Castelluccio dei Sauri	19.66	4.10
Casalnuovo Monterotaro	4.86	0.00
Castelnuovo della Daunia	15.69	24.18
Casalvecchio	5.75	9.64
Cerignola	102.71	127.97
Chieuti	8.15	4.87
Deliceto	13.09	0.00
Foggia	102.36	177.94
Lesina	13.69	81.45
Lucera	85.46	68.62
Manfredonia	46.71	250.98
Margherita di S.	2.97	5.35
Ordona	11.68	0.00
Orsara	13.41	0.00
Ortanova	14.75	36.82
Pietra Montecorvino	7.06	0.00
Poggio Imperiale	0.00	41.20
Rignano Garganico	18.25	16.75
Rodi G.	0.00	1.50
San Ferdinando di Puglia	1.34	5.84
San Paolo C.	27.74	19.30
Serracapriola	38.08	22.29
Sannnicandro G.	6.50	30.69
San Giovanni R.	6.83	6.36
S. Marco in Lamis	17.48	42.81
San Severo	94.57	36.23
Stornara	5.66	1.02
Stornarella	3.55	4.03
Torremaggiore	51.39	16.83
Trinitapoli	21.95	18.76
Troia	12.49	25.56
Volturino	0.00	0.00
Zapponeta	19.02	32.24
Total	**966.32**	**1,201.76**

In the following, instead, the list of public natural water-courses and reclamation channels under hydraulic maintenance by Consortium is reported, divided into their respective water catchment basins:

PUBLIC NATURAL WATER-COURSES	RECLAMATION CHANNELS
BASIN OF SACCIONE	
1. SACCIONE	1. CONTROFOSSO DX SACCIONE
2. CASTAGNA	2. COLLETTORE DELLE COLLINE DI CHIEUTI
3. BIVENTO	
BASIN OF FORTORE	
1. SANTA MARIA DELL'ISCHIA (RAPULLA PRINCIPALE)	1. RAPULLA SECONDARIO
2. VALLONE DELL'EREMITA	2. VALLONE SFONDATO
3. VALLONE PISCIARELLO	3. VALLONE INFORCHIA
4. CANALE DELLA BOTTE	4. VALLONE S.AGATA
5. TORRENTE STAINA	5. VALLONE MARTELLO
6. VALLONE DEL FRASSINO	6. CANALE ISCHIA 1
7. VALLONE MASTROJANNI	7. CANALE ISCHIA 2
8. VALLONE DI SAN PIETRO	8. COLLETTORE PISCIARELLA
9. VALLONE DI PARISANO (BARISANA)	9. CANALE 14A
10. VALLONE DEL BOVE (GIULIO DI TORO)	10. CANALE 14B
	11. VALLONE MADDALENA
	12. VALLONE DE LUCA
	13. VALLONE ZICOCCA
	14. VALLONE TRE STALLONI
	15. VALLONE MONTERUOLO
	16. CANALE FICARA
	17. CANALE SCURGOLA
	18. CANALE SALLEI
	19. CANALE LA PORTA
	20. CANALE TRE FONTANE
	21. CANALE FERRAUTO
BASIN OF LESINA	
1. VALLONE SCARAFONE O TOPPA	1. CANALE DELL'ELCE
2. VALLOE TRIPPA O SORGENI LAURI	2. SAN PRIMIANO
3. VALLONE DRICCIALI (BRECCIALE)	3. CANALE NISI
4. CANALE DEI CALDOLI (CANALE DELLA SORGENTE)	4. CANALE FRA MATTEO
5. VALLONE PADRE FRANCESCO	5. AFFLUENTE SX FRA MATTEO
6. PALOMBA	6. VALLONE DE PILLA-PARATA
	7. VALLONE SAN SAMUELE
	8. AFFLUENTE VALLONE DRICCIALI
	9. AFFLUENTE DX CANALE DEI CALDOLI
	10. VALLONE SANT'ANNEA
	11. VALLONE CAMARDA
	12. VALLONE CAMARDELLA
	13. CANALE PARATOIA
	14. VALLONE CRISTOFANACCHIO

PUBLIC NATURAL WATER-COURSES	RECLAMATION CHANNELS
BASIN OF LESINA	
	15. VALLONE DE PILLA
	16. VALLONE ISCARELLA
	17. CANALE VALLONE
	18. CANALE METILDE RAMO COMUNE
	19. CANALE METILDE RAMO LEVANTE
	20. CANALE METILDE RAMO PONENTE
	21. VALLONE GAETA
	22. VALLONE PACCONE
	23. I AFFL. DX PADRE FRANCESCO (CANALE LA FARA)
	24. II AFFL. DX PADRE FRANCESCO (CANALI MARIA SS, S. ANTONIO, S. GIUSEPPE)
	25. III AFFL.DX PADRE FRANCESCO (CANALE STINCO VECCHIA)
	26. IV AFFL. DX (FOSSO SENTINELLA)
	27. I AFFL. SX (CANALE DELLA RUCA)
	28. VALLONE CANIMBISO
	29. AFFL. SX CANIMBISO
	30. VALLONE PONTONICCHIO
	31. VALLONE CAPOPOSTA
	32. VALLONE COLONNELLA
	33. CANALE BASSO LAURO
	34. CANALE BASSO TORRETTA
	35. N. 16 SCOLINE POLDER LAURO-TORRETTA
	36. CANALE EMISSARIO IDROVORA
	37. CANALE ALTO DI PALUDE LAURO
	38. CANALE ALTO DI PALUDE TORRETTA
	39. CANALE BASSO DI LEVANTE DI PALUDE GRANDE
	40. CANALE BASSO DI PONENTE DI PALUDE GRANDE
	41. N. 21 SCOLINE POLDER PALUDE GRANDE
VARANO LAKE	
	1. CANALE DELLA PALUDE DI RODI
BASIN OF CANDELARO	
1. TORRENTE CANDELARO	1. CONTROFOSSO SX TORRENTE CANDELARO
2. EMISSARIO CONTESSA	2. CONTROFOSSO DX TORRENTE CANDELARO
3. FOSSO FARANA (CANALE FARANO)	3. CANALE S. TECCHIA E AFFLUENTI
4. TORRENTE CELONE	4. CANALE VALLONE DI APRICENA
5. TORRENTE SALSOLA	5. CANALE POZZO MONACI
6. TORRENTE VULGANO	6. N. 8 AFFLUENTI RIO IL CANALETTO (POTESANO)
7. TORRENTE TRIOLO	7. CANALE MARAONE
8. FIUMANA DI MOTTA MONTECORVINO (CASANOVA)	8. CANALE CIOCCATORTA
9. CANALE MARTINI	9. CANALE CUTINO BASSO
10. TORRENTE TRIOLO	10. CANALE CUTINO ALTO
11. RIO IL CANALETTO (POTESANO)	11. CANALE TORRETTA

Adductor of 2B Fortore district.

Ordinary maintenance of the channels.

Tavoliere adductor in construction phase.

PUBLIC NATURAL WATER-COURSES	RECLAMATION CHANNELS
BASIN OF CANDELARO	
12. CANALE SANTA MARIA	12. CANALE ACQUE ALTE TORRETTA
13. VALLONE DELLA BUFALA	13. CANALE TARDIO E DIRAMAZIONI
14. CANALE FERRANTE	14. CANALE DURANTE E DIRAMAZIONI
15. CANALE VENTOLO (VENOLO)	15. CANALE CAPPELLI E DIRAMAZIONI
16. CANALE RADICOSA	16. CANALE STELLA E AFFLUENTI
17. VALLONE DEL ROVELLO	17. CANALE GODUTI-STELLA
18. CANALE MARTINI	18. CANALE SCHIFARA E AFFLUENTE
19. CHIAGNEMAMMA	19. CANALE N. 3 AFFL. DX SALSOLA
20. TACCHIONE	20. CANALE N. 5 AFFL. DX SALSOLA
	21. CANALE N. 6 AFFL. DX SALSOLA
	22. CONTROFOSSO DX SALSOLA
	23. CANALE DI MOLA-SPADA E AFFLUENTE
	24. CANALE PERAZZE
	25. COLLETTORE OVEST SS16 E N. 3 AFFLUENTI
	26. SCOLMATORE SALSOLA-CELONE
	27. CANALE COLLETTORE STRADA TRASF. FONDIARIA N. 9
	28. CANALE DUANERA PRINCIPALE
	29. CANALE DUANERA SECONDARIO
	30. CANALE ARPETTA – COLLETTORE 1
	31. CANALE ARPETTA – COLLETTORE 2 E AFFLUENTI
	32. CONTROFOSSO DX TORRENTE CELONE
	33. CONTROFOSSO SX TORRENTE CELONE
	34. CANALE LACCIO E AFFLUENTI
	35. CANALE ZONA BILANCIA – AFFLUENTI DX
	36. CANALE MACCHIONE PETRULLA
	37. CANALI SECONDARI MACCHIONE PETRULLA
	38. CANALE S.CHIRICO-FONTE VIVA E AFFLUENTI
	39. CANALE TORRE DI LAMIS E AFFL. SX
	40. CANALE ARPI PASSO DI CORVO E SECONDARI
	41. CANALE S. GIUSTA
	42. CANALE S. PAOLO AFFLUENTE DEL S. GIUSTA
	43. CANALE VERSENTINO
	44. CANALE BECCARINI E AFFLUENTI
	45. CONTROFOSSO DESTRO EMISSARIO CONTESSA
	46. CANALE ONORANZA
	47. CANALE FARANIELLO DEI DEMANI
	48. CANALE FARANIELLO DI CASTIGLIONE
	49. CANALE DONADONE
	50. MARANA DI TORRE GUIDUCCI
	51. CANALE COLLETTORE ACQUE BASSE POLDER CONTESSA
	52. CANALI SECONDARI POLDER CONTESSA
	53. CANALE PROPERZIO
	54. CONTROFOSSI VENOLO

PUBLIC NATURAL WATER-COURSES	RECLAMATION CHANNELS
BASIN OF CERVARO	
1. TORRENTE CERVARO	1. CANALE RONCONE (DERIVATIVO)
2. CANALE POZZO VITOLO	2. CANALE SALINETRI (DERIVATIVO)
3. TORRENTE LA VELLA DI ORSARA (O.N.C.)	3. CANALE INVERSE
4. VALLONE DELL'ANGELO	4. CANALE RUATELLA (O.N.C.)
5. TORRENTE SANNORO (O.N.C.)	5. CANALE OVILE NAZIONALE (O.N.C.)
6. TORRENTE ACQUA SALATA	6. CANALE CONCHETTA (O.N.C.)
BASIN OF CARAPELLE	
1. TORRENTE CARAPELLE	1. CANALE MACCHIAROTONDA
2. CANALE PONTICELLO	2. CANALE RAMATOLA E AFFLUENTI
3. CANALE BIASIFIOCCO	3. CANALE RAMATOLA BRACCIO OCCIDENTALE
4. TORRENTE S. GENNARO	4. CANALE LA CORREA
5. FOSSO TRAVERSA	5. CANALE GRAVERA
6. TORRENTE CARAPELLOTTO	6. AFFLUENTI CANALE PELUSO
7. FOSSO CARAPELLUZZO	7. AFFLUENTI CANALE LA PESCIA
8. CANALE PILUSO	8. CANALE NUOVO CARAPELLOTTO
9. FOSSO LA PESCIA	9. CANALE TAMARICETO E AFFLUENTI
10. FOSSO MARANA LA PIDOCCHIOSA	10. NUOVA MARANA PONTICELLO
11. BILETRA	11. CANALI ATTORNO ALL'ABITATO DI ORTANOVA (1-6)
	12. CANALE TRIUMPELLO (O.N.C.)
	13. AFFLUENTI IN SINISTRA CANALE PONTICELLO (O.N.C.)
	14. MARANA CASTELLO SUPERIORE
	15. MARANA FICORA (O.N.C.)
	16. PONTE ROTTO (O.N.C.)
	17. COLLETTORE POLDER SETTEPOSTE
	18. CANALE N. 1 DEL POLDER
	19. CANALE N. 2 DEL POLDER
GIARDINO LAKE	
1. FOSSO LA PILA	1. CANALE REGINA (DERIVATIVO)
2. MARANA CASTELLO	2. CANALE CARAPELLOTTO (DERIVATIVO)
	3. CANALE MARANA ANGELONE (O.N.C.)
	4. CANALE S. MICHELE DELLE VIGNE
	5. CANALE ACQUE ALTE DI DESTRA POLDER LUPARA
	6. CANALE ACQUE ALTE DI SINISTRA POLDER LUPARA
	7. CANALE ACQUE BASSE POLDER LUPARA E SCOLINE
	8. CANALE COLMO D'ISCHIA
	9. EMISSARIO LUPARA
	10. CANALE GIARDINO
	11. CANALE LAGRIMARO
	12. CANALE DELL'OLMO
	13. MARANA ANNUNZIATA
	14. CANALE ACQUAMELA

PUBLIC NATURAL WATER-COURSES	RECLAMATION CHANNELS
BASIN OF OFANTO	
1. RIO SALSO	1. VALLONE CRETA BIANCA
2. MARANA CAPACCIOTTI	2. VALLONE MADONNA DEL RIPOSO
3. MARANA DI FONTANAFIGURA	3. MARANA CATTANEO E N. 3 CANALI SECONDARI
4. FOSSO DEL MALO	4. VALLONE LA PESCARA
	5. CANALE SAN MARCO
	6. CANALE CANNAFESCA
	7. CONTROFOSSO SX NUOVO DERIVATIVO OFANTINO
	8. CANALE GIANNINA
	9. COLLETTORE N. 1 DI CANESTRELLO
	10. COLLETTORE N. 2 DI CANESTRELLO E AFFL.
	11. COLLETTORE N. 3 DI CANESTRELLO E AFFL.
	12. COLLETTORE N. 4 DI CANESTRELLO
	13. COLLETTORE N. 5 DI CANESTRELLO
	14. CANALI ATTORNO ALL'ABITATO DI MOSCHELLA
	15. CANALE PAOLILLO
	16. CANALE N. 6
	17. CANALE N. 7
	18. CANALE N.8
	19. AFFLUENTE DX MARANA FONTANAFIGURA
	20. AFFLUENTE SX MARANA FONTANAFIGUA

Both the network of natural water courses and that of reclamation channels are subjected to maintenance works carried out according to a multi-year program prepared for ensure the regular flow of water for the purpose of safeguarding public safety and make safe the territory.
The abandonment of these activities would result in a drastic reduction in hydraulic flow and other related phenomena, with disastrous consequences in the event of heavy rainfall. Therefore maintenance activities constitutes a fundamental public service, not only for the benefit of agricultural land. but also to the advantage of urban, civil and productive settlements and entire community.

Ordinary and extraordinary maintenance on the reclamation channels.

Drainage of polders

The hydraulic defense of large depressed areas, which due to their particular orography cannot naturally provide for the outflow of the excess waters, is an activity that is exercised without outage. performing both drainage function of network and maintenance of consortium draining systems.
In addition to the entire arch of *Manfredonia* gulf where dune belt is located, Consortium intervened on the mouths of *Cervaro, Candelaro* and *Carapelle* streams, as well as on the depressed areas that in the past contributed to the formation of *Salso* lake and of marshes named *Versentino* and *Contessa*. In the northern part. the works let to the creation of two polders, known as *Lauro* and *Palude Grande*, balancing a delicate hydraulic system.

Palude Lauro drainage system. Riva Calzoni drainage system in the 30s.

1st ZONE	Area of polders in ectare	Length of canals in km	Length of ditches in km	Controlling weed in km	Raised waters in cubic meters for year
Palude Lauro	655.00	10.15	8.40	12.00	26,500,000
Palude Grande	860.00	8.70	13.00	10.50	7,500,000
Controfosso sx Lauro	150.00	0.60	0.00	10.50	310,000
Mezzana Grande Pescorosso	750.00	0.00	0.00	0.00	170,000
Total	**2,415.00**	**19.45**	**21.40**	**33.00**	**34,480,000**

For management purposes. the area is divided into three territorial areas.

2nd ZONE	Area of polders in ectare	Length of canals in km	Length of ditches in km	Controlling weed in km	Raised waters in cubic meters for year
SIPONTO	350.00	11.26	10.89	8.11	8,700,000
CANDELARO	250.00	3.40	0.00	0.00	400,000
CERVARO	520.00	7.10	0.00	0.00	350,000
CONTESSA	380.00	3.60	21.84	0.00	400,000
CICCALLENTO	1,200.00	0.00	0.00	0.00	150,000
Total	**2,700.00**	**25.36**	**32.73**	**8.11**	**10,000,000**

Mechanical and fluvial equipment n. 72

3rd ZONE	Area of polders in ectare	Length of canals in km	Length of ditches in km	Controlling weed in km	Raised waters in cubic meters for year
SETTE POSTE	1,481.00	0.00	0.00	0.00	5,748,000
ZAPPONETA	387.00	1.70	0.00	0.00	4,569,000
FOCE ALOISA	2,158.00	0.00	0.00	0.00	721,600
SALPI	2,000.00	0.00	0.00	0.00	9,718,000
LUPARA	662.00	6.10	0.00	0.00	0
Total	**6,688.00**	**7.80**	**0.00**	**0.00**	**20,756,600**

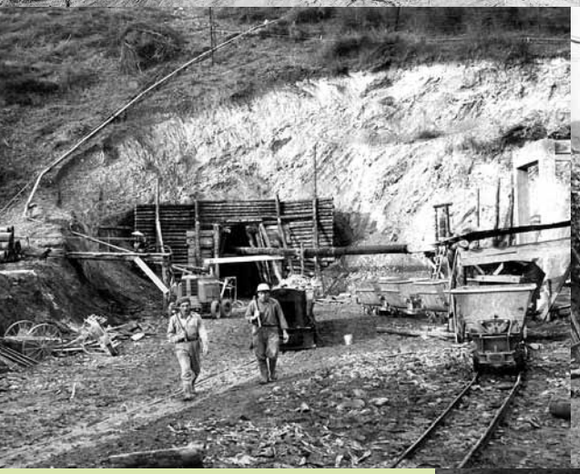
Given the vastness of the surfaces and the particular problems, the reclamation took place in different periods therefore also the lifting equipment is of different type, operation and technology. Those most commonly adopted today consist of submerged propeller pumps, electrically powered with considerable energy consumption due to the traditional starting systems. At present, only *Palude Lauro* draining pump is equipped with a soft starter drive to minimize electricity consumption, but the technological adjustment must necessarily be extended to other systems. The draining pumps are monitored and remotely controlled with a supervisory system that allows an organic management of the territory.

Palude Lauro drainage system. Pump room (Lesina countryside) - electric engines and inverter.

Rural aqueducts

Between the infrastructure works carried out with the post-war development plans, such as electricity, road and aqueduct networks, only the rural aqueducts of *Orno, Rio Salso* and *Pozzo Spagnuolo* are still managed by the Consortium. In recent years, two aqueducts have been built by other bodies to serve rural settlements: the one called *Serri d'Ischia*, in the countryside of *Candela*, and the one in *Castelluccio dei Sauri*, currently managed by Consortium.

	RIO SALSO	POZZO SPAGNUOLO	ORNO	SERRI D'ISCHIA	CASTELLUCCIO DEI SAURI
PIPES *(in linear meters)*	41,418.49	61,340.66	11,649.68	11,640.00	17,800.00
AIR VENT EQUIPMENT	150	163	220	6	10
DELIVERY EQUIPMENT	150	110	270		
DRAIN WATER ARTEFACT	43	83	6	14	13
SECTIONING EQUIPMENT	36	56	5	17	101
VENTURI TUBES	27	21	4	3	/
ROAD CROSSINGS	21	37	80	9	7
CROSSING CHANNELS	13	20	11	6	1



Construction phases of Occhito dam.
1. Left shoulder of Occhito barrage.
2. Bottom drain.
3. Processing stages of taglione.
4. Upstream vestment.

Accumulation and primary adduction works

Fortore district

- *Occhito* dam on the Fortore river in the countryside of *Carlantino*, with a useful capacity of 250 million cubic meters, for drinking and irrigation use (on average 60 million cubic meters are derived annually for drinking and 100 million cubic meters for irrigation);
- *Capaccio* dam on the *Celone* stream, in the *Lucera* countryside, with a useful capacity of 16 million cubic meters, for irrigation and industrial use;
- Tunnel of 16 km length, from the *Occhito* dam to the Finocchito node;
- River traverse on the *Vulgano* stream;
- Primary and secondary adductors for 700 kilometres;
- 3 piezometric disconnection towers;
- 40 loading and compensation tanks;
- 6 lifting systems: *Monachelle, Bellantuoni, Pozzilli, Mezzana, Renzulli* and *S.Pietro*.

Occhito dam.

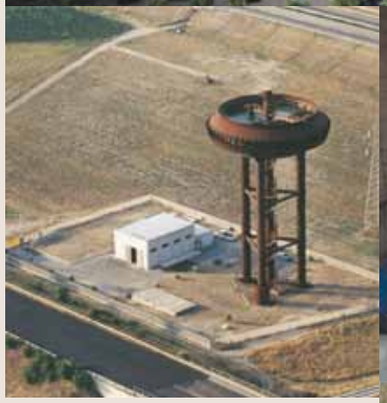
Piezometric disconnection tower.

FORTORE		
Sub-district	**Municipalities**	**Dominant hectares**
01/0	Casalvecchio di Puglia	48
01/0	Castelnuovo della Daunia	193
01/0	San Paolo di Civitate	644
01/0	Serracapriola	12
01/0	Torremaggiore	2.126
02/A	Casalvecchio di Puglia	10
02/A	Castelnuovo della Daunia	630
02/A	Torremaggiore	1.768
02/B	Castelnuovo della Daunia	336
02/B	Lucera	486
02/B	Pietra Montercorvino	2
02/B	San Severo	540
02/B	Torremaggiore	6.006
02/C	Lucera	313
02/C	San Severo	1.704
02/C	Torremaggiore	537
05/A	Foggia	177
05/A	Lucera	6.127
05/A	San Severo	139
05/B	Foggia	4.527
06/A	Foggia	1.479
06/A	Lucera	348
06/A	Rignano Garganico	71
06/A	San Severo	12.758
06/B	Foggia	10.690
06/B	Lucera	140
06/B	San Giovanni Rotondo	1.227
06/B	San Marco In Lamis	1.000
06/B	San Severo	457
08/0	Chieuti	1.517
08/0	Lesina	548
08/0	Serracapriola	5.938
08/0	Torremaggiore	698
09/0	Lesina	4.980
09/0	Poggio Imperiale	1.851
09/0	Serracapriola	49
10/A	Apricena	64
10/A	San Paolo di Civitate	848
10/A	San Severo	4.056
10/B	Apricena	1.574
10/B	San Paolo di Civitate	1.949
10/B	San Severo	1
10/C	Apricena	432
10/C	Lesina	588
10/C	Poggio Imperiale	525
10/C	San Paolo di Civitate	229
10/D	Apricena	4.743

FORTORE		
Sub-district	**Municipalities**	**Dominant hectares**
11/0	San Paolo di Civitate	458
11/0	San Severo	7.513
11/0	Torremaggiore	1.245
12/0	Foggia	7.028
12/0	Manfredonia	2.732
12/0	San Giovanni Rotondo	858
12/0	San Marco In Lamis	768
13/0	Manfredonia	888
13/0	San Giovanni Rotondo	58
		106.633

*Consortium CED data

Surface discharge of Occhito dam: slide and fixed threshold.



Tavoliere terminal tank
("La Marchesa" site, in Lucera countryside).

P3 piezometric disconnection tower.

Control unit.

Mezzana Grande traverse on Vulgano stream.

Finocchito knot:
reeds distribution

San Pietro dam on the Osento river.

San Pietro dam on the Osento river, calyx spillway.

Comprensorio Ofanto

- *Capacciotti* dam, in the *Cerignola* countryside, with a maximum capacity of 48 million cubic meters;
- *San Pietro* dam on the *Osento* river, in the countrysides of *Monteverde (AV)* and *Aquilonia (AV)*, with a maximum capacity of 17 million cubic meters;
- River traverse on the *Rio Salso*;
- Primary and secondary adductors for 310 kilometres;
- 8 loading and compensation tanks;
- 2 disconnection artifacts;
- 3 lifting systems: *Canestrello, Montagna Spaccata*, to wich *San Lorenzo* and *Trinitapoli* were subsequently added for waste water.

OFANTO		
Sub-district	**Municipalities**	**Dominant hectares**
01/A	Candela	697
01/B	Ascoli Satriano	60
01/B	Candela	550
01/C	Candela	77
02/0	Ascoli Satriano	344
02/0	Candela	109
03/A	Ascoli Satriano	392
03/B	Cerignola	767
04/0	Cerignola	3.257
04/0	San Ferdinando di Puglia	152
05/0	Cerignola	3.215
05/0	San Ferdinando di Puglia	1.788
06/0	Cerignola	2.141
06/0	San Ferdinando di Puglia	1.064
06/0	Trinitapoli	766
07/0	Cerignola	1.776
08/0	Cerignola	1.124
08/0	Trinitapoli	1.734
08/B	Cerignola	472
09/0	San Ferdinando di Puglia	341
09/0	Trinitapoli	2.912
10/0	San Ferdinando di Puglia	200
10/0	Trinitapoli	1.780
11/0	Cerignola	3.335
11/0	Orta Nova	363
11/0	Stornara	1.481
11/0	Torremaggiore	2
12/0	Cerignola	2.028
13/0	Cerignola	2.147
14/0	Cerignola	677
14/0	Stornara	1.108
14/0	Stornarella	1.403
15/0	Cerignola	425
16/0	Margherita di Savoia	256
16/0	Zapponeta	524
17/0	Trinitapoli	905
		40.372

*Consortium CED data

Garrison centers for constant monitoring of the territory are allocated throughout the area, with their own fleet of machines and equipment:

"Nord Fortore"

System	Municipalities	Locality	Phone number
OCCHITO DAM	Carlantino	Occhito	+39 0881 552026
FINOCCHITO JUNCTION	Casalvecchio	Sculgola	+39 0881 558316/558660
BELLANTUONI LIFT	Torremaggiore	Contrada Bellantuoni	+39 0882 381358
MONACHELLE LIFT	Torremaggiore	Contrada Monachelle	+39 0882 391679
POZZILLI LIFT	Poggio Imperiale	Contrada Pozzilli	+39 0882 997981
RENZULLI LIFT (Agrarian Area)	Castelnuovo della Daunia	Contrada Renzulli	+39 0882 391957
VACCARECCIA DISTRICT 8 (Agrarian Area)	Lesina	Ripalta	+39 0882 991964

"Sud Fortore"

System	Municipalities	Locality	Phone number
CAPACCIO DAM	Lucera	Località Torrebianca	+39 0881 542966
P1 TOWER	San Severo	Contrada Sabatella	+39 336 829370
P2 TOWER	Foggia	Masseria Cavalieri	+39 336 838752
P3 TOWER	Foggia	Tratturo Castiglione	+39 0881 779316
CELONE TANK	Lucera	Località Torrebianca	+39 0881 542935
TAVOLIERE TANK	Lucera	Località La Marchesa	+39 0881 521960

"Sinistra Ofanto"

System	Municipalities	Locality	Phone number
CAPACCIOTTI DAM	Cerignola	Contrada Marrano Capace	+39 0885 418730
MONTAGNA SPACCATA LIFT	Cerignola	C.da Montagna Spaccata	+39 0885 418910
CANESTRELLO LIFT	Candela	Contrada Canestrello	+39 0885 660791
OSENTO DAM	Aquilonia (AV)	San Pietro	+39 0827 86142

System	Municipalities	Locality	Phone number
PALUDE LAURO PUMP FIRST ZONE	Sannicandro	Contrada Lauro	+39 336 619481
PALUDE GRANDE PUMP FIRST ZONE	Lesina	Contrada Palude Grande	+39 336 203523
MEZZANA GRANDE PUMP FIRST ZONE	Rignano	Contrada Mezzana Grande	+39 336 203527
CANDELARO PUMP SECOND ZONE	Manfredonia	Contrada Candelaro	+39 0884 571445
SIPONTO PUMP SECOND ZONE	Manfredonia	Viale dei Pini	+39 0884 542544
SALPI PUMP THIRD ZONE	Trinitapoli	Località Salpi	+39 0883 632730
ZAPPONETA PUMP THIRD ZONE	Zapponeta	Via Manfredonia	+39 0884 520220

Palude Grande drainage system (Lesina countryside).

Cervaro drainage system (Manfredonia countryside).
Delivery pipes in stainless steel.

Cleaning grid.

Capacciotti dam.

Tavoliere adductor.

Irrigation network

The distribution of water to farms is carried out through a network of pipes and pressure pipes, with a diameter between 90 and 350 millimeters. The pipelines are completely underground, the visible part is represented by about 49,000 hydrant columns on which delivery groups or other irrigation equipment stand.
Each delivery group is placed at the service of about 4 hectares and can also be assigned to several consortium users, in relation to the company surface and the division of the property.
The water is supplied with a minimum pressure of 25 atmospheres, exploiting, on over 90% of the equipped surface, the natural piezometric gradient of the share of the storage tanks.
The irrigation season, as a rule, begins on March 1 and ends on November 30 of each year, with a supply of 2,050 cubic meters per hectare and a water supply system for users of the *"on demand"* type.
In the late 1990s, the Consortium started a modernization process of the irrigation network with the introduction of electronic card for delivery groups, to rationalize the use of the modest water resource and to improve its management, guaranteeing an equitable distribution of water and of consequent contributions.

Electronic delivery group.

Tomato field with localized irrigation.

DISTRIBUZIONE IRRIGUA				
District	**“Nord Fortore”**	**“Sud Fortore”**	**“Sinistra Ofanto**	**Totale**
Area in hectares	52,624	54,026	40,372	147,005
Users n.	19,390	9,362	24,831	53,583
Sub-district n.	10	7	22	39
Sectors n.	483	194	333	1,010
Mechanical delivery groups n.	5,814	5,489	0	11,791
Electronic delivery groups n.	6,687	2,156	8,650	17,493

*Dati ced

In the whole district there are 14 irrigation centers, equipped with their own fleet of machines and various equipment for repair and assistance and provided with a space dedicated to users:

“Nord Fortore”

Sub-districts	Municipalities	Locality	Phone number	
1-2A-2B	Torremaggiore	Renzulli	0881 391957	337 601252
8	Lesina	Vaccareccia	0882 991964	345 7909016
11	San Severo	Via Croce Santa 48	0882 375985	335 5697071
9-10AB-10CD	San Paolo di Civitate	Pozzilli	0882 997973	340 3879947

“Sud Fortore”

Sub-districts	Municipalities	Locality	Phone number	
6B	Foggia	Vaccarella (torre P2)		336.203358
6A	San Severo	SS.16 – ex Fortore experimental field	0882 379826	335 1211718
5B	Foggia	Tratturo Castiglione (P3 Tower))	0881 682492	340 3880522
12-13	Foggia	Tratturo Castiglione (P3 Tower)	0881 772078	340 3800859
5°-2C	San Severo	Sabatella (P1 Tower)		335 1374542

“Sinistra Ofanto”

Sub-districts	Municipalities	Locality	Phone number	
1A-1B-1C-2-3A-3B	Candela	Canestrello	0885 660791	335 5697581
4-15	Cerignola	Capacciotti	0885 418763	336 731732
4-9-10	San Ferdinando di Puglia	San Samuele	0883 623441	335 7614003
6-7-8	Cerignola	Pignatella	0885 427648	345 7908658
11-12-13-14	Cerignola	Pozzo Terraneo		340 3880180
16-17	Trinitapoli	Castello		335 3697010

Forestry works

The forestry works were carried out for the hydrogeological defense of the slopes and in the circumlacual areas, as well as for the protection of the slopes, to limit the sediment accumulation in the dams. The reforestation involved a total area of 1,674 hectares, including 174 hectares of windbreak belts and 205 hectares of wooded areas returned to the owners. At present, the Consortium manages 1,144 hectares of wooded areas:

· Area of *Occhito* dam: 1,006 hectares
· Area of *Capacciotti* dam: 125 hectares
· Area of *Trinitapoli*: 13 hectares

MUNICIPALITIES	DEMANIAL LANDS	AREA IN HECTARES		TOTAL
	LOCALITY	CONIFEROUS SPECIES	HARDWOOD SPECIES	
Carlantino	Difesa delle Valli	448		448
Carlantino	Valmatrano	56		56
Carlantino	Occhito circumlacual area, Daunia side	66		66
Celenza Valfortore	Occhito circumlacual area, Daunia side	117		117
Tufara (Cb*)	Occhito circumlacual area, Molise side	10		10
Gambatesa (Cb)	Occhito circumlacual area, Molise side	131		131
Macchia Valfortore (Cb)	Occhito circumlacual area, Molise side	38	85	123
S.Elia a Pianisi (Cb)	Occhito circumlacual area, Molise side	11	35	46
Casalnuovo Monterotaro	Don Nicola	9		9
Cerignola	Capacciotti circumlacual area	125		125
Trinitapoli	Castello		13	13
	TOTAL	**1,011**	**133**	**1,144**

*Campobasso Province

Technical assistance

The factors that determine the success of agriculture are manifold and complex; just think that in the Foggia province in the recent past we have witnessed the evolution from dry agriculture, limited to a few and poor crops, to a modern and advanced irrigation agriculture, extended to many and more advantageous vegetable and tree crops. In this context, the Bonifica Capitanata Consortium has historically played and still plays a fundamental role.
As part of the many activities at the service of agricultural users in its vast district, Consortium is institutionally called upon to carry out the technical assistance activity, making use of the collaboration of important research institutes as well as, through its official website (www.bonificacapitanata.it), divulging valid irrigation supports.
In the dedicated area of the site you can view, through a special graphic panel, the daily data relating to the main climatic parameters detected by 15 agro-meteorological stations managed by Consortium on its entire territory and to weather forecast.
The user who wants to be guided step by step to the irrigation

Meteorological data control screen.

practice in the specific cultivation conditions of its farm can interact with *Irriframe*, an innovative service capable of processing and returning in real time the water balance of the crops of interest, through the assessment of the deficit daily water, the water volume and the useful moment to perform the irrigation intervention. The optimal use of water resource used in agriculture through the adoption of expert computer systems represents for the Consortium a priority objective, indispensable to promote the development of quality agriculture with high added value.

Irriframe summary screen.