

Ramsar sites

**Sakata**-Niigata city-

ラムサール条約湿地

佐

S A K A T A

潟

新潟市



# Principal Features and the Natural Environment of Sakata

## Descriptions and Location of the Lake and Marshland

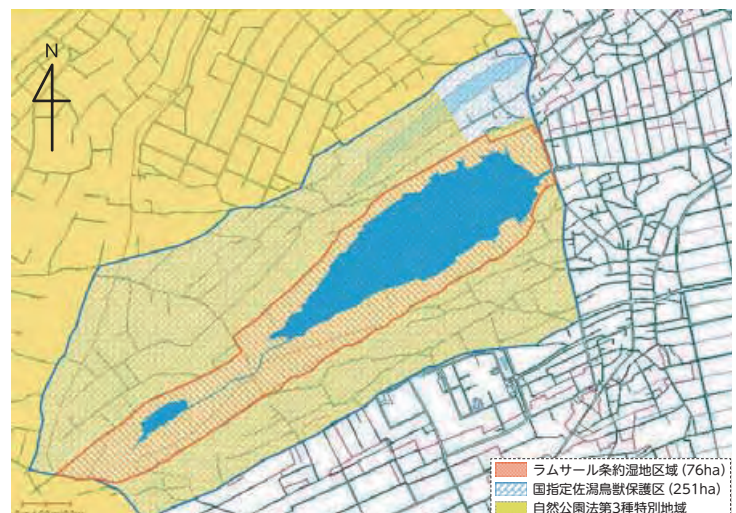
It is said that Sakata is the largest “sand dune lake” in Japan, located in the lowlands of the Niigata Sand Dunes. Sakata is a freshwater lake composed of two lagoons - a small lagoon upstream called Uwakata, and downstream a large lagoon called Shitakata. The lagoon's total area is 43.6 ha, and it is located 5 meters above sea level. It is shallow (1 meter deep on average), and the lake floor is shaped like the bottom of a ship. The lake has no inflowing river but is fed by spring water from the surrounded dunes and by rainwater.

This area is inside Sado Yahiko Yoneyama Quasi-National Park (29,464 ha); the development in this area is limited, for it is designated as a Class 3 special district by the Natural Park Law. Furthermore, the area around Sakata (251 ha) has been named the government-designated Sakata Wildlife Refuge, and has been designed to preserve wildlife under the supervision of the Ministry of the Environment. Moreover, the Ramsar Convention wetland area (76 ha) is a Niigata City Urban Park Area, that is also maintained for natural ecosystem observation.



北緯37度49分 東経138度52分30秒  
標高 5m  
国指定佐潟水鳥獣保護区  
自然公園法第3種特別地域 (佐渡弥彦米山国定公園)  
新潟市都市公園区域 (=ラムサール条約湿地区域)

## 佐潟周辺の自然環境保全区域



## The Natural Environment of Sakata

Sakata is located near the Sea of Japan, surrounded by sand dunes that are 15 to 40 meters above sea level. Its slopes are dotted with Japanese black pines, and fields of watermelons and Japanese daikon radish can be seen. In the ecotone, or transition area between the land and the lake, you can see planted communities of Japanese red pines and black pines; natural groves of *Machilus thunbergii* (a broadleaved evergreen tree) and Manchurian walnut; clusters of ditch reeds and willows; and, nearest the water, *Acorus calamus* (sweet flags) and Indian rice. In the water, lotus flowers and water caltrop plants grow abundantly; it is suggested that the remains of these plants add to the deposit on the bottom of the lake, possibly affecting the fish and shellfish in Sakata.

Thus in Sakata, the natural environment is constructed on the interdependence and interconnectedness of diverse life, including human beings. In order to preserve the natural environment of Sakata for the future, it is essential that we deepen our understanding of conservation and how to sustainably use Sakata.

### Plants

In total, 117 families and 669 species of plants have been documented in Sakata. The marshlands around the lake are mainly made up of phragmites (the common reed), while in the water, colonies of lotus flowers and water caltrop plants thrive. Research done since 1997 shows that the number of species of submerged plants has decreased, resulting from a decline in the transparency of the water and a transformation of the environment of the bottom of the lake.

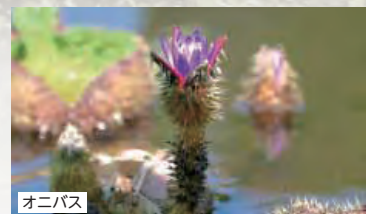
Also in Sakata, several endangered species of plants grow, such as gorgon plants and monochoria. Many of them live in the areas between the land and the shallow water called the "ecotone," characteristic of the natural environment of Sakata.



ハス



ミズアオイ



オニバス

### Birds

Sakata is known as a wintering place for migratory birds, mainly Anseriformes; among its representative waterfowl are tundra swans, mallards, and common teals. Many Anseriformes, such as the tundra swans, come and stay in the lagoon as a staging post during winter, shuttling between the lagoon and nearby rice paddies where they get food. With its water temperature relatively high thanks to spring water, Sakata rarely freezes. Therefore, waterfowl seem to use it as a haven when other lagoons and marshes in and around Niigata are frozen; more than twenty thousand Anseriformes have been observed at times in recent years.

Apart from the fowl using the surface of the lake, other birds also inhabit Sakata, including birds of prey such as northern goshawks, and great reed warblers that inhabit the reed beds during spring and summer; a total of 208 species of birds have been documented in Sakata.



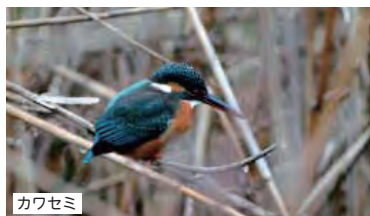
コハクチョウ



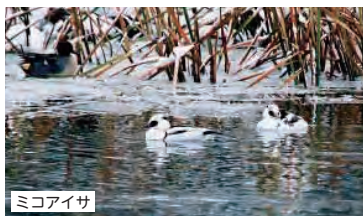
マガモ



オオヨシキリ



カワセミ



ミコアイサ



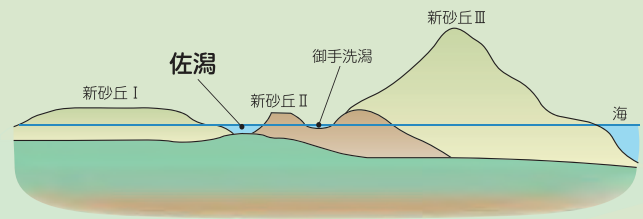
オオタカ

## The History of Sakata—from the Distant Past to the Edo Period

Along the coast of Echigo Plain, 70 km of Niigata Sand Dunes stretch from Iwafune Harbor to the foot of Kakuda Mountain. The Niigata Sand Dunes can be divided into three parts: New Sand Dune I was formed in the early Jomon period, New Sand Dune II in the late Yayoi period, and New Sand Dune III in the Tumulus period. About 1300 years ago when

New Sand Dune III was formed, spring water began to flow between New Sand Dune I and II or between I and III, creating what we now know as Sakata while also forming a wetland ecosystem amongst the dunes. From the Jomon period to the Yayoi period on, Sakata was apparently treasured as a hunting site, as stone hunting tools have been excavated. Ruins from the Heian period are scattered on the sand dunes surrounding the lagoons; we can assume that the area around the lagoon was a place where the people's lifestyle had a deep connection to the water. In one of the ruins, net sinkers called "dosui" have been found in large quantities, showing that Sakata has been used as fishing grounds since then.

In the Edo period, Takada Castle Lord Matsudaira Tadateru ordered a fee paid to him for bird hunting in Sakata, which helped protect the swans. In the appendix of "The Revised Map of the Echigo and Sado Region" (1802), written by Miwa Nagayasu, a feudal retainer of the Yoita Domain, Sakatagata (Sakata Lagoon) is described as follows: "It is a small lagoon located in the north of Akatsuka Station, the best place in the country for wild geese and wild ducks. The crucian carp is also its specialty." We can assume that there have been plenty of waterfowl, and that Sakata has been fishing grounds for freshwater fish since then. Presumably for this reason, the Akatsuka region, where Sakata is located, flourished as a "zaigo-machi," or a rural town in the Hokuriku region.



写真で見る  
潟と人との関わり  
～ 昔～



潟普請



岸辺の水田



冬の漁



水辺で遊ぶ子ども

### 佐潟の歴史年表

縄文時代前期	弥生時代	古墳時代	平安時代	16世紀	17世紀	18世紀	昭和22年	昭和25年	昭和40年頃	昭和45年	昭和56年	昭和57年	平成8年	平成10年	平成12年	平成18年	平成26年	
新砂丘Ⅰ形成	新砂丘Ⅱ形成	水辺を狩猟の場として活用	新砂丘Ⅲ形成	潟の周りに集落が形成	佐潟の鳥猟に鳥役	領主への白鳥の献上	農地改革	高度経済成長期	減反政策	佐潟鳥獣保護区指定	西川揚水機場完成	佐潟公園関連事業始まる	ラムサール条約登録	佐潟周辺自然環境保全計画策定	同計画改定(第2期)	同計画改定(第3期)	同計画改定(第2期)	同計画改定(第3期)



(注) その後、昭和56年に米山地区が加わり、名称が現在の佐渡弥彦米山国定公園と改称された。

	縄文・弥生・平安	江戸	明治	昭和	平成
赤塚地域		在郷町 北国街道	赤塚村 (明治22年)	新潟市に合併 (昭和36年)	新潟市西区 (平成19年)
保護・利用 政策など	生活の場 (猟場)	鳥役(鳥税) 潟役(潟税) 白鳥などの 献上	潟普請 蓮根組合 潟主 銃猟禁止 地租改正	鳥獣保護区 農地改革 減反政策 都市公園	潟普請(現代版) ラムサール条約 佐潟周辺自然 環境保全計画
周辺農地		松林	岸辺の水田利用 松林植林	水田跡のヨシ原 畑地 耕地整理・パイプ灌漑	
生物多様性				多様性の 高い時期	
水管理			水門管理		管理水位設定
				水質の悪化	

## The History of Sakata--from the Meiji Period to the Present Day

In the Meiji period, records show that fishing rights were claimed and a Lotus Root Union existed. During those days the riches of Sakata were closely connected to the finances of the Akatsuka Village.

In the Akatsuka region, water from Sakata was utilized for all kinds of public uses, including irrigation. In order to facilitate the flow of spring water during the summer dry season, the whole community conducted an extensive cleanup called "katabushin," removing mud and withered water plants that had accumulated in the lake. Katabushin was necessary not only for maintaining irrigation water but also for fishery - released fry need fresh water to grow, for instance. For the purpose of irrigation water management, managers were appointed in Akatsuka to adjust a sluice gate in the lake and patrol irrigation and drainage.

On the shores of Sakata, rice had been cultivated since before the Meiji period. This rice cultivation developed further after World War II, expanding the landscape of rice paddies. In spring, farmers used boats to carry mud (from dead plants) that was scooped up from the bottom of the lake, and put it on paddies as organic fertilizer.

Thus, until the 1960s, Sakata played an essential part in people's lives, providing a water resource for agriculture, favorable freshwater fishing grounds, and shores for rice paddies. Sakata had a direct relationship with the local people. That is why Sakata and its ecosystem were maintained by the local people, while many other lakes and marshes in Echigo Plain were vanishing.

The rapid economic growth in 1960s and ensuing social change brought to the community a lifestyle that did not depend on the riches of the lake as heavily as before. The pine forests around the sand dunes were transformed into farms, while the sand dunes themselves were also reduced. Starting in around 1970, the paddies on the shores diminished due to the government policy of reducing acreage. In 1982, Niigata City launched the Sakata Park development project, advocating new approaches to utilize Sakata. As a result, between the Showa period and the Heisei period, local people used the lake water only for fishery and minimal agriculture use. The rice paddies on the shores turned into reed beds, and the water quality deteriorated by eutrophication.

In 1996, Sakata was registered under the Ramsar Convention, drawing renewed attention to Sakata's presence and value. This led the local people to start the "Sakata Cleanup Project" to revive the old "katabushin," including a discharge of the lake-bottom mud and the retrieval of dead water plants. Niigata City also implemented, in cooperation with the local communities, a project to improve water quality and preserve the wetland environment, urging us to reconsider the relationship between Sakata and the people.

【昭和前期以前の佐潟】 着色部分：水田



【現在の佐潟】 着色部分：ヨシ原



	昭和前期	昭和後期から平成	現在
<b>保全</b>	<ul style="list-style-type: none"> <li>● 潟普請 (舟道浚渫/夏/住民全体)</li> <li>● ゴタ上げ (底泥を潟田へ/春/各自)</li> <li>● 水路維持 (通年/各自)</li> </ul>	<ul style="list-style-type: none"> <li>● 潟普請の消失 (揚水機場の完成でかんがい用水利用がなくなる)</li> <li>● ゴタ上げの消失</li> <li>● 水路維持作業の消失 (減反政策で潟田耕作なくなる)</li> </ul>	<ul style="list-style-type: none"> <li>● 潟普請の復活 (底泥浚渫/秋/住民全体)</li> <li>● ゴタ上げ (底泥の一部を堆肥利用)</li> <li>● ヨシ刈りや水路復元 (秋/新潟市・住民)</li> </ul>
<b>賢明な利用</b>	<ul style="list-style-type: none"> <li>● 稲作 (春～秋/各自)</li> <li>● 溜池 (下流水田への給水/春夏)</li> <li>● 採取 (蓮根・菱(秋)/魚(冬)/潟主)</li> </ul>	<ul style="list-style-type: none"> <li>● 稲作の消失 (減反政策で潟田耕作なくなる)</li> <li>● 溜池の役割消失 (揚水機場の完成でかんがい用水利用がなくなる)</li> <li>● 採取活動の低下 (食環境・社会環境の変化)</li> </ul>	<ul style="list-style-type: none"> <li>● ヨシ原 (ヨシを堆肥として利用)</li> <li>● 採取 (盆花、トバス(工作用)など食以外にも利用)</li> <li>● 憩い、環境教育、自然観察会ほか新たな利用</li> </ul>
	密接な住民の関わり	住民の関わりの低下	住民の関わりの復活 (市民・NPO・行政の協働)

写真で見る  
潟と人との関わり  
～ 現在 ～





北陸自動車道新潟西ICから約30分、巻潟東ICから約30分

## ■Contact

(31/3/2016)

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